



2005 STANDARD DRAWINGS

<http://www.udot.utah.gov/index.php/m=c/tid=1091>

Change 2, May 10, 2005

Memorandum UTAH DEPARTMENT OF TRANSPORTATION

DATE: May 10, 2005

TO: Region Directors
Project Engineers
Project Design Engineers
Project Managers
Consultants and Contractors

FROM: Barry Axelrod, CDT
Standards and Specifications

SUBJECT: 2005 Standard Drawings [U.S. Standard Unit (Inch-Pound Units)] Change 2,
Dated May 10, 2005

A new index and updated drawings are attached. Please take the following action with respect to the attached pages.

REMOVE

Cover
N/A
Index
Listing
Sheet 1B
Sheet 1C
AT 4
CB 1
CB 2
CB 3
CC 8A
CC 8B
CC 9A
CC 9B
DD 4
FG 4
N/A
N/A
SL 12
N/A
SN 8
SN 11

INSERT

Cover - revised for Change Two
Memo - Insert after cover
Index - revised
Listing of Revised Standard Drawings, With Changes 1 and 2
Sheet 1B - revised
Sheet 1C - revised
AT 4 - revised
CB 1 - revised
CB 2 - revised
CB 3 - revised
CC 8A - revised
CC 8B - revised
CC 9A - revised
CC 9B - revised
DD 4 - revised
N/A - drawing deleted
FG 4A - new
FG 4B - new
SL 12 - revised
SL 13 - new
SN 8 - revised
SN 11 - revised

Electronic files for all Standards Drawings are available on the Internet from the “2005 Standards” Web page, under “2005 Standard Drawings.” Individual files are available in two locations. For Microstation DGN format files download individual files from the “2005 Individual Standard Drawings (DGN)” link. For Adobe PDF format files download individual and series files from the “2005 Individual Standard Drawings (PDF)” link. The Series files are zipped in an EXE file. The entire set of drawings is available in Adobe pdf format in six files from the same area as the “2005 Current Drawings” link. The following page shows a break down of the six parts and the drawing series included in each part.

Any changes made to a digitally signed UDOT Standard Drawing Microstation DGN files automatically invalids the digital signatures.

If you have any questions or problems with the electronic files contact me at 801-964-4570 or by email at baxelrod@utah.gov.

Because of file size the 2005 Standard Drawings have been split into six files. The contents of each part are listed below.

Part 1 (Updated as part of Change 1 and 2)

Index

Sheets 1B and 1C

AT Series Drawings

BA Series Drawings

Part 2 (Updated as part of Change 1 and 2)

CB Series Drawings

CC Series Drawings

DB Series Drawings

Part 3 (Updated as part of Change 1 and 2)

DD Series Drawings

DG Series Drawings

EN Series Drawings

Part 4 (Updated as part of Change 1 and 2)

FG Series Drawings

GF Series Drawings

GW Series Drawings

Part 5 (Updated as part of Change 2)

PV Series Drawings

SL Series Drawings

SN Series Drawings

Part 6 (Updated as part of Change 1)

ST Series Drawings

SW Series Drawings

TC Series Drawings

STANDARD DRAWINGS INDEX (Change 2, Dated 05/10/05)
UTAH DEPARTMENT OF TRANSPORTATION

U	NUMBER	TITLE	CURRENT DATE
		Advanced Traffic Management System (AT)	
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___	AT 2	Ramp Meter Details	02/24/05
___	AT 3	Ramp Meter Sign Panel	02/24/05
___	AT 4	Typical Ramp Meter Signal Head Mounting	04/28/05
___	AT 5	Ramp Meter Loop Installation	02/24/05
___	AT 6	Conduit Details	02/24/05
___	AT 7	Polymer-Concrete Junction Box Details	02/24/05
___	AT 8	ATMS Cabinet	02/24/05
___	AT 9	ATMS Cabinet Disconnect And Transformer Frame	02/24/05
___	AT 10	CCTV Mounting Details	02/24/05
___	AT 11	CCTV Pole Details	02/24/05
___	AT 12	CCTV Pole Foundation For Dedicated CCTV Pole	02/24/05
___	AT 13	Not Used	
___	AT 14	Weigh In Motion Piezo Details	02/24/05
___	AT 15	RWIS Site And Foundation Details	02/24/05
___	AT 16	RWIS Tower Base And Service Pad Layout	02/24/05
___	AT 17	Ground Rod Installation And Tower Grounding	02/24/05
___	AT 18	TMS Detection Zone Layout	02/24/05
		Barriers (BA)	
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___	BA 1B	Precast Concrete Full Barrier Standard Section	01/01/05
___	BA 1C	Precast Concrete Barrier Terminal For Speed \leq 40 MPH	01/01/05
___	BA 1D	Precast Concrete Full Section Median Installation	01/01/05
___	BA 1E	Precast Concrete Full Section Shoulder Applications	01/01/05
___	BA 2	Precast Concrete Half Barrier Standard Section	01/01/05
___	BA 3A	Cast In Place Constant Slope Barrier	02/24/05
___	BA 3B	Precast Concrete Constant Slope Transition Section For Crash Cushion And W-Beam Guardrail	02/24/05
___	BA 4A	W-Beam Guardrail Hardware	01/01/05
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___	BA 4C	W-Beam Guardrail Transition Curb Section	02/24/05
___	BA 4D	W-Beam Guardrail Anchor Type I	01/01/05
___	BA 4E	W-Beam Guardrail Installations	01/01/05
___	BA 4F	W-Beam Guardrail Typical Divided Roadways	01/01/05
___	BA 4G	W-Beam Guardrail Typical Multilane Arterial	01/01/05
___	BA 4H	W-Beam Guardrail Typical 2 Lane 2 Way	01/01/05
___	BA 4I	W-Beam Guardrail Buried In Backslope Terminal	01/01/05
___	BA 4J	W-Beam Guardrail Buried In Backslope Terminal With Rub Rail	01/01/05
___	BA 4K	W-Beam Guardrail Buried In Backslope Terminal Anchor	01/01/05
___	BA 4L	W-Beam Guardrail Curve Details	01/01/05

—	BA 4M	W-Beam Guardrail Nested Guardrail 12' 6" Span	01/01/05
—	BA 4N	W-Beam Guardrail Nested Guardrail 18' 9" Span	01/01/05
—	BA 4O	W-Beam Guardrail Nested Guardrail 25' Span	01/01/05
—	BA 4P	W-Beam Guardrail With Precast Barrier For Span > 25'	01/01/05

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—	CB 2	Open Curb Inlet	04/28/05
—	CB 3	Shallow Catch Basin	04/28/05
—	CB 4	Open Curb Shallow Catch Basin	01/01/05
—	CB 5A	Standard Catch Basin and Cleanout Box	01/01/05
—	CB 5B	Standard Catch Basin and Cleanout Box Section	01/01/05
—	CB 6A	Drop Inlet Type "A"	01/01/05
—	CB 6B	Berm Apron With Drop Inlet Type "A"	01/01/05
—	CB 7A	Drop Inlet Type "B"	01/01/05
—	CB 7B	Normal Apron With Drop Inlet Type "B"	01/01/05
—	CB 8A	Double Catch Basin	01/01/05
—	CB 8B	Double Catch Basin	01/01/05
—	CB 9A	Standard Catch Basin And Cleanout Box Situation And Layout	01/01/05
—	CB 9B	Standard Catch Basin And Cleanout Box Section Details	01/01/05
—	CB 9C	Standard Catch Basin And Cleanout Box Schedule Of Installation 18" to 42" RCP 12" to 48" CMP	01/01/05
—	CB 9D	Standard Catch Basin And Cleanout Box Schedule Of Installation 48" to 66" RCP 60" to 78" CMP	01/01/05
—	CB 10A	Standard Catch Basin And Cleanout Box Situation And Layout	01/01/05
—	CB 10B	Standard Catch Basin And Cleanout Box Section Details	01/01/05
—	CB 10C	Standard Catch Basin And Cleanout Box Schedule Of Installation 42" to 60" RCP 48" to 72" CMP	01/01/05
—	CB 11	Standard Manhole	01/01/05

Crash Cushions (CC)

—	CC 1	Crash Cushion Markings	01/01/05
—	CC 2	Crash Cushion Drainage Details Guideline A	01/01/05
—	CC 3	Crash Cushion Drainage Details Guideline B	01/01/05
—	CC 4	Details For Placement Crash Cushions Type A, B, And D	01/01/05
—	CC 5	Grading And Placement Details Crash Cushion Type C	01/01/05
—	CC 6	Crash Cushion Type E Sand Barrel Details	01/01/05
—	CC 7A	Grading And Installation Details Crash Cushion Type F Quad Trend 350	02/24/05
—	CC 7B	Reserved For Future Use	
—	CC 8A	Grading And Installation Details Crash Cushion Type G	04/28/05
—	CC 8B	Grading And Installation Details For "3R" Projects Crash Cushion Type G	04/28/05
—	CC 9A	Grading And Installation Details Crash Cushion Type H	04/28/05
—	CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	04/28/05

Diversion Boxes (DB)

___	DB 1A	Standard Diversion Box/Cover Plate/Grating For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 1B	Standard Diversion Box Hinged Lid Details For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 1C	Standard Diversion Box Bicycle - Safe Grating Details For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 1D	Standard Diversion Box Three Gate Box Sections For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 1E	Standard Diversion Box Three Gate Box Sections For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 1F	Standard Diversion Box Three Gate Box Sections For 18" DIA. or 24" DIA. Pipe	01/01/05
___	DB 2A	Standard Diversion Box w/Interchangeable Walls, Bottom Slab, Walls And Apron Details	01/01/05
___	DB 2B	Standard Diversion Box w/Interchangeable Walls, Quantities Schedule	01/01/05
___	DB 2C	Standard Diversion Box w/Interchangeable Walls, Hand Slide Gate Details	01/01/05
___	DB 2D	Standard Diversion Box Type "G" Hand Slide Gate Details	01/01/05
___	DB 2E	Standard Diversion Box Hinged Lid (Solid Cover Plate) Type "A" Details Type I Plan	01/01/05
___	DB 2F	Standard Diversion Box Hinged Lid (Solid Cover Plate) Type "A" Details Type II Plan	01/01/05
___	DB 2G	Standard Diversion Box Hinged Lid Solid Cover Type "B" Details	01/01/05
___	DB 2H	Standard Diversion Box Hinged Lid Solid Cover Type "B" And "C" Details	01/01/05
___	DB 3A	Standard Diversion Box With Manhole Cover Situation And Layout	01/01/05
___	DB 3B	Standard Diversion Box With Manhole Cover Up To 42" RCP And Up To 54" CMP	01/01/05
___	DB 3C	Standard Diversion Box With Manhole Cover 48" to 72" RCP And 60" to 84" CMP	01/01/05
___	DB 4	Standard Transition Concrete Lined Ditch To Pipe Or Diversion Box	01/01/05

Design Drawings (DD)

___	DD 1	Superelevation And Widening	01/01/05
___	DD 2	Surface Ditch, Benched Slope, And Cut Ditch Details	01/01/05
___	DD 3	Climbing Lanes	01/01/05
___	DD 4	Geometric Design for Freeways (Roadway)	04/28/05
___	DD 5	Entrance And Exit Ramps At Crossroads	01/01/05
___	DD 6	Entrance And Exit Ramp Geometrics	01/01/05
___	DD 7	Freeway Crossover	01/01/05
___	DD 8	Structural Geometric Design Standards For Clearances	01/01/05
___	DD 9	Structural Geometric Design Standards	01/01/05
___	DD 10	Railroad Clearances At Highway Overpass Structures	01/01/05

___	DD 11	Rural Multi Lane Highways Other Than Freeways	01/01/05
___	DD 12	Rural Two Lane Highways	01/01/05
___	DD 13	Frontage And Access Roads (Under 50 ADT)	01/01/05
___	DD 14	Typical Rural 2 Lane Road With Median Lane And Deceleration Lane For Intersecting Crossroads	01/01/05

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___	DG 2	Fill Height for Metal Pipe (Aluminum)	01/01/05
___	DG 3	Maximum Fill Height For HDPE And PVC Pipes	01/01/05
___	DG 4	Pipe Minimum Cover	01/01/05
___	DG 5	Plastic Pipe, Metal Pipe Or Pipe Arch Culvert Bedding	01/01/05
___	DG 6	Precast Concrete Pipe Culvert	01/01/05
___	DG 7	Gasketed Joints Or Coupling Bands For CMP	01/01/05
___	DG 8	Metal Culvert End Section	01/01/05
___	DG 9	Miscellaneous Pipe Details	01/01/05

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___	EN 1	Temporary Erosion Control (Check Dams)	01/01/05
___	EN 2	Temporary Erosion Control (Silt Fence)	01/01/05
___	EN 3	Temporary Erosion Control (Slope Drain And Temporary Berm)	01/01/05
___	EN 4	Temporary Erosion Control (Drop Inlet Barriers)	01/01/05
___	EN 5	Temporary Erosion Control (Sediment Trap And Curb Inlet Barrier)	01/01/05

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___	FG 1A	Right Of Way Fence And Gates (Wood Post)	01/01/05
___	FG 1B	Right Of Way Fence And Gates (Wood Post)	01/01/05
___	FG 2A	Right Of Way Fence And Gates (Metal Post)	01/01/05
___	FG 2B	Right Of Way Fence And Gates (Metal Post)	01/01/05
___	FG 3	Swing Gates Type I For Gates Less Than 17'	02/24/05
___	FG 4A	Deer Crossing Details	04/28/05
___	FG 4B	Deer Ramp Details	04/28/05
___	FG 5	Swing Gates Type II For Gates Wider Than 17'	01/01/05
___	FG 6	Chain Link Fence	01/01/05

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___	GF 1	Manhole Frame And Grated Cover	01/01/05
___	GF 2	Manhole Frame And Solid Cover	01/01/05
___	GF 3	Rectangular Grate And Frame	01/01/05
___	GF 4	Directional Flow Grate And Frame	01/01/05
___	GF 5	Solid Cover And Frame	01/01/05
___	GF 6	Manhole Steps	01/01/05
___	GF 7	Standard Screw Gate And Frame	01/01/05
___	GF 8	2' x 2' Grate And Frame	01/01/05
___	GF 9	28" x 24" Directional Flow Grate And Frame	01/01/05
___	GF 10	Standard Trash Racks 90 ° X-ing Angle	01/01/05

___	GF 11	Standard Trash Racks	01/01/05
___	GF 12	Standard Trash Racks	01/01/05
___	GF 13	Open Curb Inlet Grate and Frame	01/01/05
___	GF 14	Solid Cover For Std Dwg DB 1 MS-18 Loading	01/01/05
___	GF 15	Standard Screw Gate And Frame	01/01/05

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___	GW 2	Concrete Curb And Gutter	01/01/05
___	GW 3	Concrete Curb And Gutter Details	01/01/05
___	GW 4	Concrete Driveways And Sidewalks	01/01/05
___	GW 5A	Pedestrian Access	01/01/05
___	GW 5B	Pedestrian Access	01/01/05
___	GW 5C	Pedestrian Access	01/01/05
___	GW 6	Right Of Way Marker	01/01/05
___	GW 7	Newspaper And Mailbox Stop Layout	01/01/05
___	GW 8	Newspaper And Mailbox Support Hardware	01/01/05
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___	GW 10	Delineation Application	01/01/05
___	GW 11	Sidewalks And Shoulders On Urban Roadways	01/01/05

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___	PV 2	Pavement/Approach Slab Details	01/01/05
___	PV 3	Concrete Pavement Details For Urban And Interstate	01/01/05
___	PV 4	Concrete Pavement Details For Urban And Interstate	01/01/05
___	PV 5	Urban Concrete Pavement Details	01/01/05
___	PV 6	Rumble Strips	01/01/05
___	PV 7	Rumble Strips - Typical Application	01/01/05
___	PV 8	Note Used	
___	PV 9	Dowel Bar Retrofit	01/01/05

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___	SL 1B	Traffic Signal Mast Arm Pole And Luminaire Extension	01/01/05
___	SL 2	Traffic Signal Mast Arm Details 30' Thru 75'	01/01/05
___	SL 3	Underground Service Pedestal Details	01/01/05
___	SL 4	Traffic Signal Mast Arm Pole Foundation	01/01/05
___	SL 5	Traffic Signal Pole	01/01/05
___	SL 6	Pole Mounted Power Source Details	01/01/05
___	SL 7	Span Wire Signal Pole Details	01/01/05
___	SL 8	Signal Head Details	01/01/05
___	SL 9	Pedestrian Signal Assembly	01/01/05
___	SL 10	Traffic Signal Controller Base Details	01/01/05
___	SL 11	Traffic Signal Loop Detector Details	01/01/05
___	SL 12	Traffic Counting Loop Detector Details	04/28/05

___	SL 13	Video Detection Camera Mount	04/28/05
___	SL 14	Highway Luminaire Pole Ground Mount	01/01/05
___	SL 15	Luminaire Slip Base Details	01/01/05
___	SL 16	Highway Luminaire Pole Barrier Mount	01/01/05
___	SL 17	Highway Luminaire Pole Foundation Extension	01/01/05
___	SL 18	Single Transformer Substation Details	01/01/05

Signs (SN)

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___	SN 2	School Speed Limit Assembly	01/01/05
___	SN 3	Overhead School Speed Limit Assembly	01/01/05
___	SN 4	Flashing Stop Sign	01/01/05
___	SN 5	Typical Installation For Milepost Signs	01/01/05
___	SN 6	Speed Reduction Sign Sequence	01/01/05
___	SN 7	Placement of Ground Mounted Signs	01/01/05
___	SN 8	Ground Mounted Timber Sign Post (P1)	04/28/05
___	SN 9	Ground Mounted Tubular Steel Sign Post (P2)	01/01/05
___	SN 10	Ground Mounted Square Steel Sign Post (P3)	01/01/05
___	SN 11	Slipbase Ground Mounted Tubular Steel Sign Post (P4)	04/28/05
___	SN 12A	Ground Mounted Sign Installation Details	01/01/05
___	SN 12B	Ground Mounted Sign Installation Details	01/01/05
___	SN 12C	Ground Mounted Sign Installation Details	01/01/05

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___	ST 2	Freeway Crossover Markings	01/01/05
___	ST 3	Typical Pavement Markings	01/01/05
___	ST 4	Crosswalks, Parking And Intersection Approaches	01/01/05
___	ST 5	Painted Median And Auxiliary Lane Details	02/24/05
___	ST 6	Passing/Climbing Lanes Traffic Control	01/01/05
___	ST 7	Pavement Markings And Signs At Railroad Crossing	01/01/05
___	ST 8	Plowable Pavement Markers	01/01/05
___	ST 9	School Crossing And School Message	01/01/05

Structures And Walls (SW)

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___	SW 2	Noise Wall Placement Area	01/01/05
___	SW 3A	Precast Concrete Noise Wall 1 Of 2	01/01/05
___	SW 3B	Precast Concrete Noise Wall 2 Of 2	01/01/05
___	SW 4A	Precast Concrete Retaining/Noise Wall 1 Of 2	01/01/05
___	SW 4B	Precast Concrete Retaining/Noise Wall 2 Of 2	01/01/05

Traffic Control (TC)

___	TC 1A	Construction Zone Channelization Devices	01/01/05
___	TC 1B	Construction Zone Signing	01/01/05

___	TC 2A	Traffic Control General	01/01/05
___	TC 2B	Traffic Control General	01/01/05
___	TC 3	Traffic Control Project Limit Signing	01/01/05
___	TC 4	Traffic Control Urban Intersections With Roadways Under 50 MPH	01/01/05
___	TC 5	Traffic Control Urban Intersections With Roadways Under 50 MPH	01/01/05
___	TC 6	Traffic Control Pedestrian Routing	01/01/05
___	TC 7	Traffic Control Road Closed, Detour	01/01/05
___	TC 8	Traffic Control Lane Closure	01/01/05
___	TC 9	Traffic Control Multilane Closure	01/01/05
___	TC 10	Traffic Control Expressway And Freeway Crossover/Turn Around	01/01/05
___	TC 11	Traffic Control Exit Ramp Gore	01/01/05
___	TC 12	Traffic Control Entrance Ramp Gore	01/01/05
___	TC 13	Traffic Control Shoulder-Haul Road	01/01/05
___	TC 14	Traffic Control Flagging Operation	01/01/05
___	TC 15	Traffic Control 2 Lane/2 Way Seal Coat With Cover Material	01/01/05
___	TC 16	Traffic Control Pavement Marking	01/01/05

Listing of Revised Standard Drawings

Change One

Revised February 24, 2005

AT 1	Legend Sheet	02/24/2005
AT 2	Ramp Meter Details	02/24/2005
AT 3	Ramp Meter Sign Panel	02/24/2005
AT 5	Ramp Meter Loop Installation	02/24/2005
AT 6	Conduit Details	02/24/2005
AT 7	Polymer-Concrete Junction Box Details	02/24/2005
AT 8	ATMS Cabinet	02/24/2005
AT 9	ATMS Cabinet Disconnect And Transformer Frame	02/24/2005
AT 10	CCTV Mounting Details	02/24/2005
AT 11	CCTV Pole Details	02/24/2005
AT 12	CCTV Pole Foundation For Dedicated CCTV Pole	02/24/2005
AT 13	Deleted	N/A
AT 14	Weigh In Motion Piezo Details	02/24/2005
AT 15	RWIS Site And Foundation Details	02/24/2005
AT 16	RWIS Tower Base And Service Pad Layout	02/24/2005
AT 17	Ground Rod Installation And Tower Grounding	02/24/2005
AT 18	TMS Detection Zone Layout	02/24/2005
BA 3	Deleted	N/A
BA 3A	Cast In Place Constant Slope Barrier	02/24/2005
BA 3B	Precast Concrete Constant Slope Transition Section For Crash Cushion And W-Beam Guardrail	02/24/2005
BA 4B	W-Beam Guardrail Transition	02/24/2005
BA 4C	W-Beam Guardrail Transition Curb Section	02/24/2005
CC 7	Deleted	N/A
CC 7A	Grading And Installation Details Crash Cushion Type F Quad Trend 350	02/24/2005
CC 7B	Reserved For Future Use	N/A
CC 8	Deleted	N/A
CC 8A	Grading And Installation Details Crash Cushion Type G	02/24/2005
CC 8B	Grading And Installation Details For "3R" Projects Crash Cushion Type G	02/24/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	02/24/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	02/24/2005
DD 4	Geometric Design for Freeways (Roadway)	02/24/2005
FG 3	Swing Gates Type I For Gates Less Than 17'	02/24/2005
ST 5	Painted Median And Auxiliary Lane Details	02/24/2005

Change Two

Revised April 28, 2005

AT 4	Typical Ramp Meter Signal Head Mounting	04/28/2005
CB 1	Curb and Gutter Inlet	04/28/2005
CB 2	Open Curb Inlet	04/28/2005
CB 3	Shallow Catch Basin	04/28/2005
CC 8A	Grading And Installation Details Crash Cushion Type G	04/28/2005
CC 8B	Grading And Installation Details For "3R" Projects Crash Cushion Type G	04/28/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	04/28/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	04/28/2005
DD 4	Geometric Design for Freeways (Roadway)	04/28/2005
FG 4	Deleted	N/A
FG 4A	Deer Crossing Details	04/28/2005
FG 4B	Deer Ramp Details	04/28/2005
SL 12	Traffic Counting Loop Detector Details	04/28/2005
SL 13	Video Detection Camera Mount	04/28/2005
SN 8	Ground Mounted Timber Sign Post (P1)	04/28/2005
SN 11	Slipbase Ground Mounted Tubular Steel Sign Post (P4)	04/28/2005

UTAH DEPARTMENT OF TRANSPORTATION


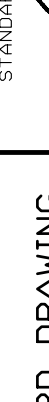
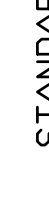
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

	DWG. NO.	DESCRIPTION	DATE
		Advanced Traffic Management System (AT)	
	AT 1	LEGEND SHEET	02-24-05
	AT 2	RAMP METER DETAILS	02-24-05
	AT 3	RAMP METER SIGN PANEL	02-24-05
	AT 4	TYPICAL RAMP METER SIGNAL HEAD MOUNTING	04-28-05
	AT 5	RAMP METER LOOP INSTALLATION	02-24-05
	AT 6	CONDUIT DETAILS	02-24-05
	AT 7	POLYMER-CONCRETE JUNCTION BOX DETAILS	02-24-05
	AT 8	ATMS CABINET	02-24-05
	AT 9	ATMS CABINET DISCONNECT AND TRANSFORMER FRAME	02-24-05
	AT 10	CCTV MOUNTING DETAILS	02-24-05
	AT 11	CCTV POLE DETAILS	02-24-05
	AT 12	CCTV POLE FOUNDATION FOR DEDICATED CCTV POLE	02-24-05
	AT 13	NOT USED	
	AT 14	WEIGHT IN MOTION PIEZO DETAILS	02-24-05
	AT 15	RWIS SITE AND FOUNDATION DETAILS	02-24-05
	AT 16	RWIS TOWER BASE AND SERVICE PAD LAYOUT	02-24-05
	AT 17	GROUND ROD INSTALLATION AND TOWER GROUNDING	02-24-05
	AT 18	TMS DETECTION ZONE LAYOUT	02-24-05
		Barriers (BA)	
	BA 1A	PRECAST CONCRETE FULL BARRIER STANDARD SECTION	01-01-05
	BA 1B	PRECAST CONCRETE FULL BARRIER STANDARD SECTION	01-01-05
	BA 1C	PRECAST CONCRETE BARRIER TERMINAL FOR SPEED ≤40 MPH	01-01-05
	BA 1D	PRECAST CONCRETE FULL SECTION MEDIAN INSTALLATION	01-01-05
	BA 1E	PRECAST CONCRETE FULL SECTION SHOULDER APPLICATIONS	01-01-05
	BA 2	PRECAST CONCRETE HALF BARRIER STANDARD SECTION	01-01-05
	BA 3A	CAST IN PLACE CONSTANT SLOPE BARRIER	02-24-05
	BA 3B	PRECAST CONCRETE CONSTANT SLOPE TRANSITION SECTION FOR CRASH CUSHION AND W-BEAM GUARDRAIL	02-24-05
	BA 4A	W-BEAM GUARDRAIL HARDWARE	01-01-05
	BA 4B	W-BEAM GUARDRAIL TRANSITION	02-24-05
	BA 4C	W-BEAM GUARDRAIL TRANSITION CURB SECTIONS	02-24-05
	BA 4D	W-BEAM GUARDRAIL ANCHOR TYPE I	01-01-05
	BA 4E	W-BEAM GUARDRAIL INSTALLATIONS	01-01-05
	BA 4F	W-BEAM GUARDRAIL TYPICALS DIVIDED ROADWAYS	01-01-05
	BA 4G	W-BEAM GUARDRAIL TYPICAL MULTILANE ARTERIAL	01-01-05
	BA 4H	W-BEAM GUARDRAIL TYPICAL 2 LANE 2 WAY	01-01-05
	BA 4I	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL	01-01-05
	BA 4J	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL WITH RUB RAIL	01-01-05
	BA 4K	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL ANCHOR	01-01-05
	BA 4L	W-BEAM GUARDRAIL CURVE DETAILS	01-01-05
	BA 4M	W-BEAM GUARDRAIL NESTED GUARDRAIL 12' 6" SPAN	01-01-05
	BA 4N	W-BEAM GUARDRAIL NESTED GUARDRAIL 18' 9" SPAN	01-01-05
	BA 4O	W-BEAM GUARDRAIL NESTED GUARDRAIL 25' SPAN	01-01-05
	BA 4P	W-BEAM GUARDRAIL WITH PRECAST BARRIER FOR SPAN > 25'	01-01-05

☒ MARKED BOXES INDICATE DRAWINGS APPLICABLE TO THIS PROJECT

DWG. NO.	DESCRIPTION	DATE
	Catch Basins and Cleanouts (CB)	
CB 1	CURB AND GUTTER INLET	04-28-05
CB 2	OPEN CURB INLET	04-28-05
CB 3	SHALLOW CATCH BASIN	04-28-05
CB 4	OPEN CURB SHALLOW CATCH BASIN	01-01-05
CB 5A	STANDARD CATCH BASIN AND CLEANOUT BOX	01-01-05
CB 5B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION	01-01-05
CB 6A	DROP INLET TYPE "A"	01-01-05
CB 6B	BERM APRON WITH DROP INLET TYPE "A"	01-01-05
CB 7A	DROP INLET TYPE "B"	01-01-05
CB 7B	NORMAL APRON WITH DROP INLET TYPE "B"	01-01-05
CB 8A	DOUBLE CATCH BASIN	01-01-05
CB 8B	DOUBLE CATCH BASIN	01-01-05
CB 9A	STANDARD CATCH BASIN AND CLEANOUT BOX SITUATION AND LAYOUT	01-01-05
CB 9B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION DETAILS	01-01-05
CB 9C	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 18" TO 42" RCP 12" TO 48" CMP	01-01-05
CB 9D	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 48" TO 66" RCP 60" TO 78" CMP	01-01-05
CB 10A	STANDARD CATCH BASIN AND CLEANOUT BOX SITUATION AND LAYOUT	01-01-05
CB 10B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION DETAILS	01-01-05
CB 10C	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 42" TO 60" RCP 48" TO 72" CMP	01-01-05
CB 11	STANDARD MANHOLE	01-01-05
	Crash Cushions (CC)	
CC 1	CRASH CUSHION MARKINGS	01-01-05
CC 2	CRASH CUSHION DRAINAGE DETAILS GUIDELINE A	01-01-05
CC 3	CRASH CUSHION DRAINAGE DETAILS GUIDELINE B	01-01-05
CC 4	DETAIL FOR PLACEMENT CRASH CUSHIONS TYPE A, B AND D	01-01-05
CC 5	GRADING AND PLACEMENT DETAILS CRASH CUSHION TYPE C	01-01-05
CC 6	CRASH CUSHION TYPE E SAND BARREL DETAILS	01-01-05
CC 7A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE F QUAD TREND 350	02-24-05
CC 7B	RESERVED	
CC 8A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE G	04-28-05
CC 8B	GRADING AND INSTALLATION DETAILS FOR "3R" PROJECTS CRASH CUSHION TYPE G	04-28-05
CC 9A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE H	04-28-05
CC 9B	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE H (PARABOLIC FLARE)	04-28-05
	Diversion Boxes (DB)	
DB 1A	STANDARD DIVERSION BOX/COVER PLATE/GRATING FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 1B	STANDARD DIVERSION BOX HINGED LID DETAILS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 1C	STANDARD DIVERSION BOX BICYCLE-SAFE GRATING DETAILS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 1D	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 1E	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 1F	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
DB 2A	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, BOTTOM SLAB, WALLS AND APRON DETAILS	01-01-05
DB 2B	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, QUANTITIES SCHEDULE	01-01-05
DB 2C	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, HAND SLIDE GATE DETAILS	01-01-05
DB 2D	STANDARD DIVERSION BOX TYPE "G" HAND SLIDE GATE DETAILS	01-01-05
DB 2E	STANDARD DIVERSION BOX HINGED LID (SOLID COVER PLATE) TYPE "A" DETAILS TYPE I PLAN	01-01-05

DWG. NO.	DESCRIPTION	DATE
DB 2 F	STANDARD DIVERSION BOX HINGED LID (SOLID COVER PLATE) TYPE "A" DETAILS TYPE II PLAN	01-01-05
DB 2 G	STANDARD DIVERSION BOX HINGED LID SOLID COVER TYPE "B" DETAILS	01-01-05
DB 2 H	STANDARD DIVERSION BOX HINGED LID SOLID COVER TYPE "B" AND "C" DETAILS	01-01-05
DB 3 A	STANDARD DIVERSION BOX WITH MANHOLE COVER SITUATION AND LAYOUT	01-01-05
DB 3 B	STANDARD DIVERSION BOX WITH MANHOLE COVER UP TO 42" RCP AND UP TO 54" CMP	01-01-05
DB 3 C	STANDARD DIVERSION BOX WITH MANHOLE COVER 48" TO 72" RCP AND 60" TO 84" CMP	01-01-05
DB 4	STANDARD TRANSITION CONCRETE LINED DITCH TO PIPE OR DIVERSION BOX	01-01-05
	Design (DD)	
DD 1	SUPERELEVATION AND WIDENING	01-01-05
DD 2	SURFACE DITCH, BENCHED SLOPE, AND CUT DITCH DETAILS	01-01-05
DD 3	CLIMBING LANES	01-01-05
DD 4	GEOMETRIC DESIGN FOR FREEWAYS (ROADWAY)	04-28-05
DD 5	ENTRANCE AND EXIT RAMPS AT CROSSROADS	01-01-05
DD 6	ENTRANCE AND EXIT RAMP GEOMETRICS	01-01-05
DD 7	FREEWAY CROSSOVER	01-01-05
DD 8	STRUCTURAL GEOMETRIC DESIGN STANDARDS FOR CLEARANCES	01-01-05
DD 9	STRUCTURAL GEOMETRIC DESIGN STANDARDS	01-01-05
DD 10	RAILROAD CLEARANCES AT HIGHWAY OVERPASS STRUCTURES	01-01-05
DD 11	RURAL MULTI LANE HIGHWAYS OTHER THAN FREEWAYS	01-01-05
DD 12	RURAL TWO LANE HIGHWAYS	01-01-05
DD 13	FRONTAGE AND ACCESS ROADS (UNDER 50 ADT)	01-01-05
DD 14	TYPICAL RURAL 2 LANE ROAD WITH MEDIAN LANE AND DECELERATION LANE FOR INTERSECTING CROSSROADS	01-01-05
	Drainage (DG)	
DG 1	FILL HEIGHT FOR METAL PIPE (STEEL)	01-01-05
DG 2	FILL HEIGHT FOR METAL PIPE (ALUMINUM)	01-01-05
DG 3	MAXIMUM FILL HEIGHT FOR HDPE AND PVC PIPES	01-01-05
DG 4	PIPE MINIMUM COVER	01-01-05
DG 5	PLASTIC PIPE, METAL PIPE OR PIPE ARCH CULVERT BEDDING	01-01-05
DG 6	PRECAST CONCRETE PIPE CULVERT	01-01-05
DG 7	GASKETTED JOINTS OR COUPLING BANDS FOR CMP	01-01-05
DG 8	METAL CULVERT END SECTION	01-01-05
DG 9	MISCELLANEOUS PIPE DETAILS	01-01-05
	Environmental Controls (EN)	
EN 1	TEMPORARY EROSION CONTROL (CHECK DAMS)	01-01-05
EN 2	TEMPORARY EROSION CONTROL (SILT FENCE)	01-01-05
EN 3	TEMPORARY EROSION CONTROL (SLOPE DRAIN AND TEMPORARY BERM)	01-01-05
EN 4	TEMPORARY EROSION CONTROL (DROP INLET BARRIERS)	01-01-05
EN 5	TEMPORARY EROSION CONTROL (SEDIMENT TRAP AND CURB INLET BARRIER)	01-01-05

STANDARD DRAWING INDEX SHEET	STD DWG 1-B	STANDARD DRAWING TITLE	UTAH DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION SAY PLAIN ENGLISH				REVISIONS			
			1	02/24/05	B.A.	CHANGE 1				
			2	04/28/05	B.A.	CHANGE 2				
			RECOMMENDED FOR APPROVAL 			APR. 28, 2005 DATE				
			CHAIRMAN STANDARDS COMMITTEE APPROVED 			APR. 28, 2005 DATE				
			DEPUTY DIRECTOR 			APR. 28, 2005 DATE				
			NO.			DATE				
						APPR.				
						REMARKS				

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

DWG. NO.	DESCRIPTION	DATE
	Fence and Gates (FG)	
FG 1 A	RIGHT OF WAY FENCE AND GATES (WOOD POST)	01-01-05
FG 1 B	RIGHT OF WAY FENCE AND GATES (WOOD POST)	01-01-05
FG 2 A	RIGHT OF WAY FENCE AND GATES (METAL POST)	01-01-05
FG 2 B	RIGHT OF WAY FENCE AND GATES (METAL POST)	01-01-05
FG 3	SWING GATES TYPE 1 FOR GATES LESS THAN 17'	02-24-05
FG 4 A	DEER CROSSING DETAILS	04-28-05
FG 4 B	DEER RAMP DETAILS	04-28-05
FG 5	SWING GATES TYPE II FOR GATES WIDER THAN 17'	01-01-05
FG 6	CHAIN LINK FENCE	01-01-05
	Grates, Frames and Trash Racks (GF)	
GF 1	MANHOLE FRAME AND GRATED COVER	01-01-05
GF 2	MANHOLE FRAME AND SOLID COVER	01-01-05
GF 3	RECTANGULAR GRATE AND FRAME	01-01-05
GF 4	DIRECTIONAL FLOW GRATE AND FRAME	01-01-05
GF 5	SOLID COVER AND FRAME	01-01-05
GF 6	MANHOLE STEPS	01-01-05
GF 7	STANDARD SCREW GATE AND FRAME	01-01-05
GF 8	2' x 2' GRATE AND FRAME	01-01-05
GF 9	28" x 24" DIRECTIONAL FLOW GRATE AND FRAME	01-01-05
GF 10	STANDARD TRASH RACKS 90° X-ING ANGLE	01-01-05
GF 11	STANDARD TRASH RACKS	01-01-05
GF 12	STANDARD TRASH RACKS	01-01-05
GF 13	OPEN CURB INLET GRATE AND FRAME	01-01-05
GF 14	SOLID COVER FOR STD DWG DB 1 MS-18 LOADING	01-01-05
GF 15	STANDARD SCREW GATE AND FRAME	01-01-05
	General Road Work (GW)	
GW 1	RAISED MEDIAN AND PLOWABLE END SECTION	01-01-05
GW 2	CONCRETE CURB AND GUTTER	01-01-05
GW 3	CONCRETE CURB AND GUTTER DETAILS	01-01-05
GW 4	CONCRETE DRIVEWAYS AND SIDEWALKS	01-01-05
GW 5A	PEDESTRIAN ACCESS	01-01-05
GW 5B	PEDESTRIAN ACCESS	01-01-05
GW 5C	PEDESTRIAN ACCESS	01-01-05
GW 6	RIGHT OF WAY MARKER	01-01-05
GW 7	NEWSPAPER AND MAILBOX STOP LAYOUT	01-01-05
GW 8	NEWSPAPER AND MAILBOX SUPPORT HARDWARE	01-01-05
GW 9	DELINEATION HARDWARE	01-01-05
GW 10	DELINEATION APPLICATION	01-01-05
GW 11	SIDEWALKS AND SHOULDERS ON URBAN ROADWAYS	01-01-05

	DWG. NO.	DESCRIPTION	DATE
		Paving (PV)	
	PV 1	JOINTS FOR HIGHWAYS WITH CONCRETE TRAFFIC LANES AND SHOULDERS	01-01-05
	PV 2	PAVEMENT/APPROACH SLAB DETAILS	01-01-05
	PV 3	CONCRETE PAVEMENT DETAILS FOR URBAN AND INTERSTATE	01-01-05
	PV 4	CONCRETE PAVEMENT DETAILS FOR URBAN AND INTERSTATE	01-01-05
	PV 5	URBAN CONCRETE PAVEMENT DETAILS	01-01-05
	PV 6	RUMBLE STRIPS	01-01-05
	PV 7	RUMBLE STRIPS-TYPICAL APPLICATION	01-01-05
	PV 8	NOT USED	
	PV 9	DOWEL BAR RETROFIT	01-01-05
		Signals (SL)	
	SL 1A	TRAFFIC SIGNAL MAST ARM POLE AND LUMINAIRE EXTENSION	01-01-05
	SL 1B	TRAFFIC SIGNAL MAST ARM POLE AND LUMINAIRE EXTENSION	01-01-05
	SL 2	TRAFFIC SIGNAL MAST ARM DETAILS 30' THRU 75'	01-01-05
	SL 3	UNDERGROUND SERVICE PEDESTAL DETAILS	01-01-05
	SL 4	TRAFFIC SIGNAL MAST ARM POLE FOUNDATION	01-01-05
	SL 5	TRAFFIC SIGNAL POLE	01-01-05
	SL 6	POLE MOUNTED POWER SOURCE DETAILS	01-01-05
	SL 7	SPAN WIRE SIGNAL POLE DETAILS	01-01-05
	SL 8	SIGNAL HEAD DETAILS	01-01-05
	SL 9	PEDESTRIAN SIGNAL ASSEMBLY	01-01-05
	SL 10	TRAFFIC SIGNAL CONTROLLER BASE DETAILS	01-01-05
	SL 11	TRAFFIC SIGNAL LOOP DETECTOR DETAILS	01-01-05
	SL 12	TRAFFIC COUNTING LOOP DETECTOR DETAILS	04-28-05
	SL 13	VIDEO DETECTION CAMERA MOUNT	04-28-05
	SL 14	HIGHWAY LUMINAIRE POLE GROUND MOUNT	01-01-05
	SL 15	LUMINAIRE SLIP BASE DETAILS	01-01-05
	SL 16	HIGHWAY LUMINAIRE POLE BARRIER MOUNT	01-01-05
	SL 17	HIGHWAY LUMINAIRE POLE FOUNDATION EXTENSION	01-01-05
	SL 18	SINGLE TRANSFORMER SUBSTATION DETAILS	01-01-05
		Signs (SN)	
	SN 1	BRIDGE LOAD LIMITS SIGNS	01-01-05
	SN 2	SCHOOL SPEED LIMIT ASSEMBLY	01-01-05
	SN 3	OVERHEAD SCHOOL SPEED LIMIT ASSEMBLY	01-01-05
	SN 4	FLASHING STOP SIGN	01-01-05
	SN 5	TYPICAL INSTALLATION FOR MILEPOST SIGNS	01-01-05
	SN 6	SPEED REDUCTION SIGN SEQUENCE	01-01-05
	SN 7	PLACEMENT OF GROUND MOUNTED SIGNS	01-01-05
	SN 8	GROUND MOUNTED TIMBER SIGN POST (P1)	04-28-05
	SN 9	GROUND MOUNTED TUBULAR STEEL SIGN POST (P2)	01-01-05
	SN 10	GROUND MOUNTED SQUARE STEEL SIGN POST (P3)	01-01-05
	SN 11	SLIPBASE GROUND MOUNTED TUBULAR STEEL SIGN POST (P4)	04-28-05
	SN 12A	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05
	SN 12B	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05
	SN 12C	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05

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STANDARD DRAWING INDEX SHEET	STD DWG 1-C	STANDARD DRAWING TITLE	UTAH DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION SAINT JEROME DISTRICT				REVISIONS			
							1	02/24/05	B.A.	CHANGE 1
							2	04/28/05	B.A.	CHANGE 2
RECOMMENDED FOR APPROVAL _____ APR. 28, 2005 DATE										
CHAIRMAN STANDARDS COMMITTEE APPROVED _____ APR. 28, 2005 DATE										
DEPUTY DIRECTOR _____ APR. 28, 2005 DATE										
No.	DATE	APPR.	DATE	REMARKS						

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PLAN

SECTION A-A

ISOMETRIC VIEW

CURB DEPRESSION DETAIL

SECTION B-B

NOTES:

1. USE CLASS AA(AE) CONCRETE.
2. TYPE II CEMENT (LOW ALKALI) REQUIRED.
3. FOR NUMBER, LOCATION, AND SIZE OF PIPE(S) SEE ROADWAY PLANS.
4. SEE PLANS FOR DEPRESSION DIMENSION.
5. PROVIDE $\frac{3}{4}$ " CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
6. FOR GRATE AND FRAME SEE STD DWG GF 13.

DESIGN DATA

HS 20 OR INTERSTATE ALTERNATE LOADING IN ACCORDANCE
WITH AASHTO 17th EDITION SPECIFICATIONS.

STRUCTURAL STEEL: $F_y = 36,000 \text{ psi}$

STRUCTURAL CONCRETE: $f'_c = 4,000$ psi
 $f_y = 60,000$ psi
 $n = 8$

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UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SECTION 100000

RECOMMENDED FOR APPROVAL _____
CHAIRMAN STANDING COMMITTEE

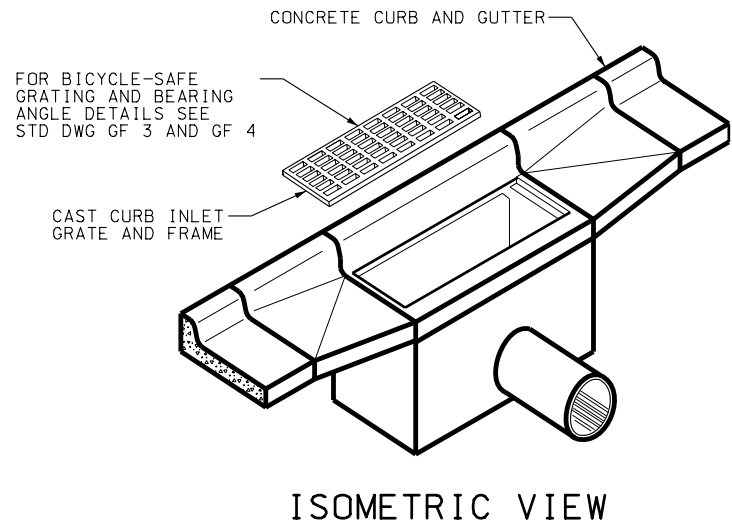
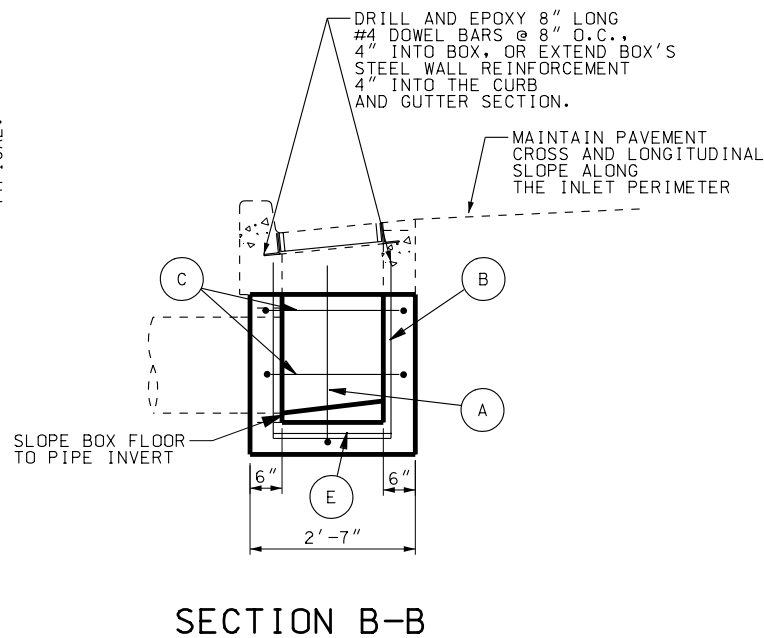
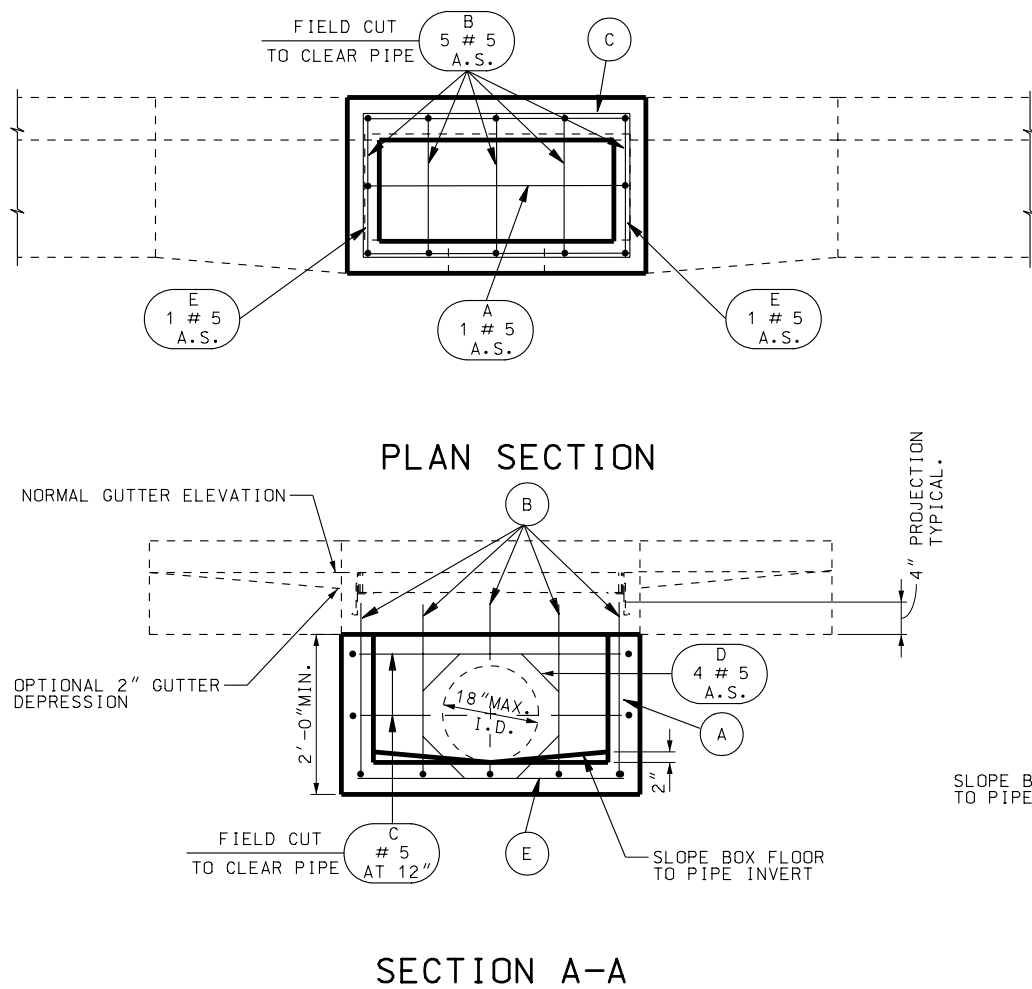
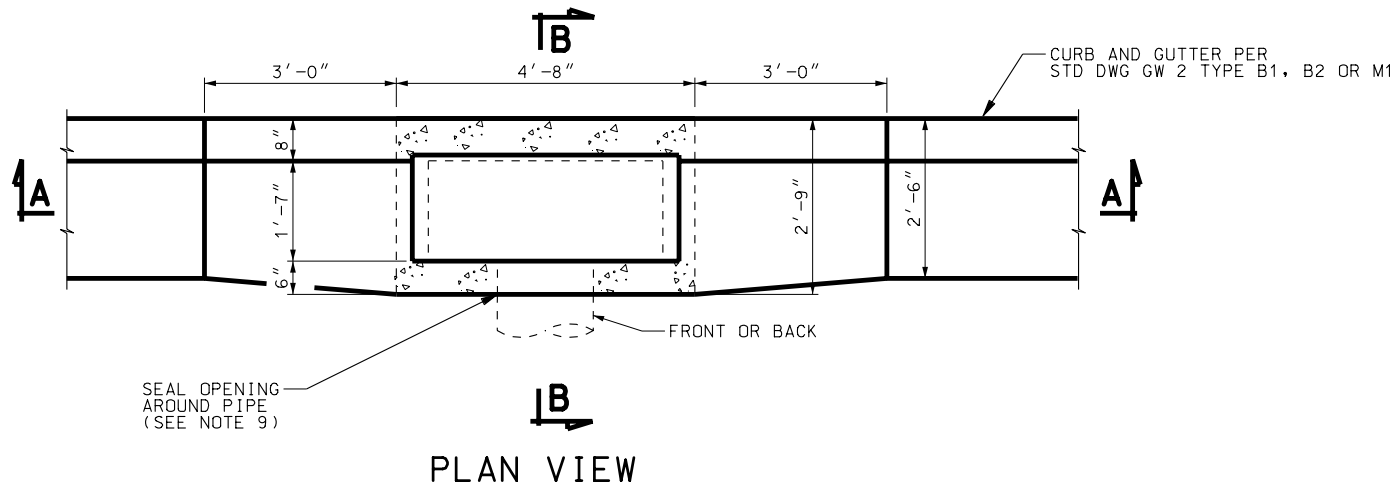
DATE APR.28,2005

DEPUTY DIRECTOR _____ DATE _____

OPEN CURB INLET

STD DWG
CB 2

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- NOTES:**
1. USE COATED DEFORMED BILLET REINFORCING STEEL BARS CONFORMING TO AASHTO M 284 OR M 111 AND M 31 GRADE 60 RESPECTIVELY.
 2. USE CLASS AA(AE) CONCRETE.
 3. USE TYPE II CEMENT (LOW ALKALI).
 4. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
 5. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL.
 6. FOR GRATE AND FRAME SEE STD DWG GF 3 AND GF 4.
 7. FIELD CUT AND BEND REINFORCING STEEL AS NECESSARY TO CLEAR PIPE(S) AND MAINTAIN 2" COVER.
 8. FOR LOCATION AND SIZE OF PIPE(S) SEE ROADWAY PLANS.
 9. CENTER PIPE IN BOX OPENING, USE NON-SHRINK GROUT TO SEAL OPENING AROUND THE PIPE, OR USE PIPE MANUFACTURER PIPE-BOOT INSTEAD.
 10. SIZE BOX HEIGHT TO MEET MINIMUM COVER FOR PIPE USED. (SEE STD DWG DG 4)
 11. REPAIR ANY DAMAGE OR CUTS TO EPOXY COATING.

DESIGN DATA

HS 20 OR INTERSTATE ALTERNATE LOADING IN ACCORDANCE WITH AASHTO 17th EDITION SPECIFICATIONS.

STRUCTURAL STEEL: $F_y = 36,000 \text{ psi}$

STRUCTURAL CONCRETE: $f'_c = 4,000 \text{ psi}$
 $f_y = 60,000 \text{ psi}$
 $n = 8$

REINFORCING STEEL LAYOUT				
PROVIDE 2" MIN. COVER TO ALL BARS				
BAR A	BAR B	BAR C	BAR D	BAR E

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARDS COMMITTEE
APPROVED

SHALLOW
CATCH BASIN

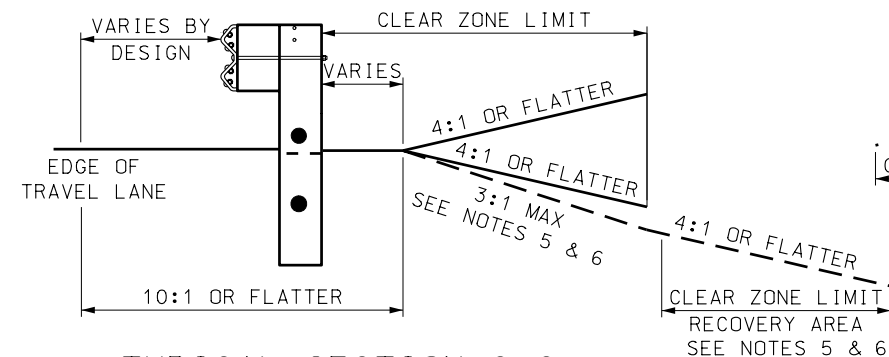
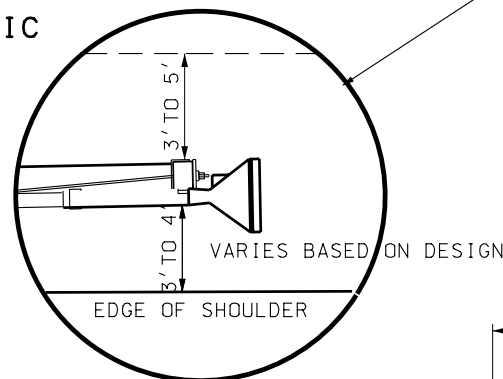
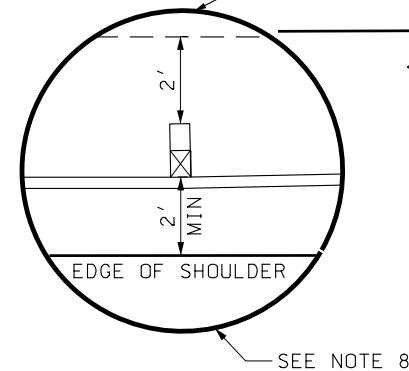
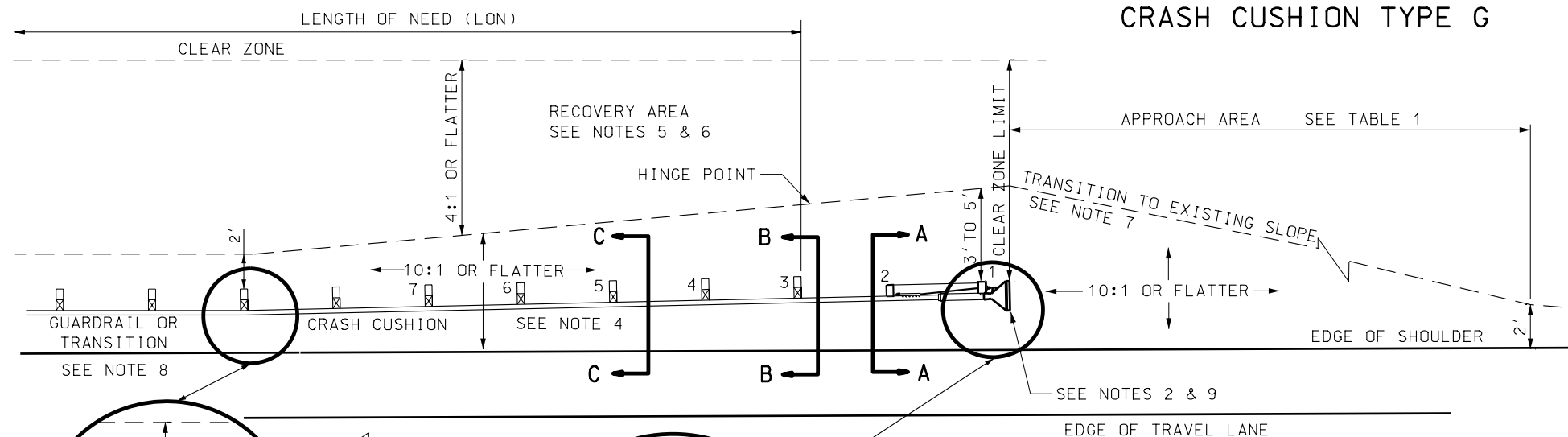
STD DWG
CB 3

REVISIONS
1 04/28/05 M.F. SECTION B-B BACK WALL THICKNESS CHANGED FROM 8" TO 6".

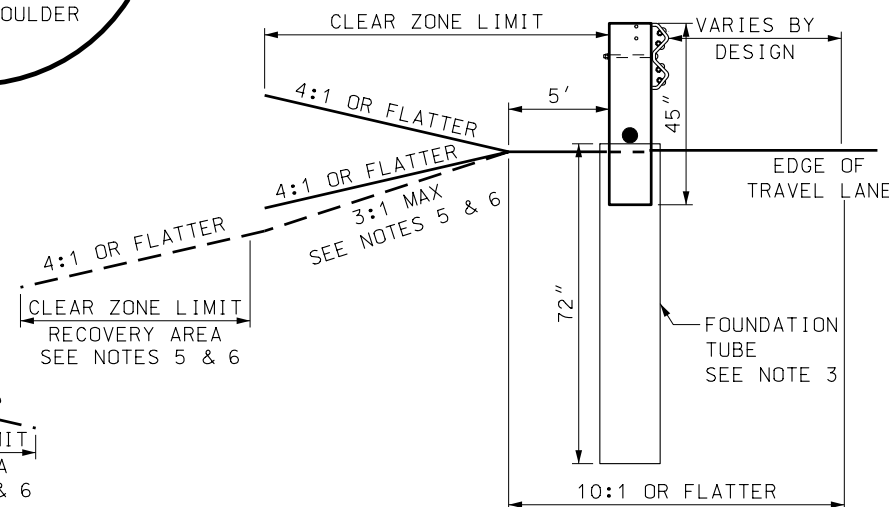
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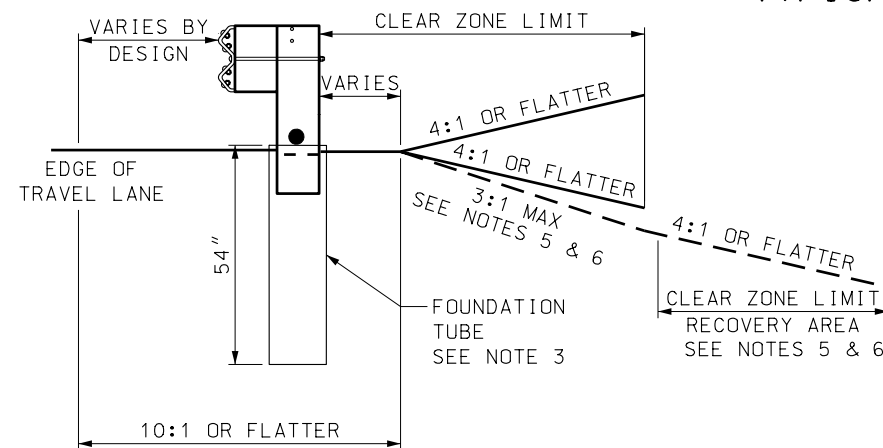
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TYPICAL SECTION C-C
POSTS 5-8



TYPICAL SECTION A-A
POSTS 1-2



TYPICAL SECTION B-B
POSTS 3-4

TABLE 1	
SPEED MPH	TAPER
LESS THAN 40	7:1
40 TO 55	10:1
60 TO 75	15:1

NOTES:

- APPROVED SYSTEMS: ET-2000 AND ET-PLUS MANUFACTURED BY TRINITY INDUSTRIES AND THE SKT-350, MANUFACTURED BY ROAD SYSTEMS INC. REFER TO UDOT'S GUIDELINES FOR CRASH CUSHIONS FOR SPECIFIC SYSTEM DETAILS.
- SYSTEM OFFSET:
 - INSTALL SYSTEM WITH 1 FOOT OFFSET (50:1 FLARE RATE) WHEN USED WITH A TANGENT BARRIER SYSTEM.
 - INSTALL SYSTEM AT THE SAME FLARE RATE AS THE BARRIER IT IS BEING ATTACHED TO.
- POST OPTIONS: REFER TO UDOT'S GUIDELINES FOR CRASH CUSHION FOR APPROVED POST OPTIONS.
- RAIL ELEMENTS
 - USE 12 1/2 FOOT RAIL ELEMENTS AS SPECIFIED BY THE SYSTEM MANUFACTURER.
 - DO NOT BOLT RAIL ELEMENT AT POST 1.
 - REFER TO MANUFACTURE SPECIFICATIONS FOR OTHER RAIL TO POST BOLT REQUIREMENTS.
- COMPLETE SLOPE PREPARATION PRIOR TO INSTALLING SYSTEM.
 - USE 10:1 OR FLATTER SLOPES IN APPROACH AREA.
 - USE 4:1 OR FLATTER FORESLOPE OR BACKSLOPE IN THE RECOVERY AREA.
 - IF A 4:1 FORESLOPE IN RECOVERY AREA IS IMPRACTICAL USE A MAXIMUM 3:1 FORESLOPE. ESTABLISH A RECOVERY AREA AT THE TOE OF THE 3:1 FORESLOPE OF 4:1 OR FLATTER.
 - USE A 4:1 BACKSLOPE TO THE CLEAR ZONE LIMIT IN THE RECOVERY AREA. IF A 4:1 BACKSLOPE CANNOT BE ESTABLISHED A 3:1 BACKSLOPE IS PERMITTED.
- CLEAR RECOVERY AND APPROACH AREAS OF ANY FIXED OBJECTS.
 - DO NOT PLACE SIGNS OR POLES IN APPROACH AREA.
 - USE BREAKAWAY SIGNS OR POLES WHEN PLACED IN RECOVERY AREA, AND MAINTAIN A MINIMUM 10 FOOT CLEARANCE TO THE SIDES AND REAR OF THE SYSTEM.
- CONSTRUCT PLATFORM AS REQUIRED WHEN THE SPACE IS AVAILABLE EVEN IF THE PLATFORM EXTENDS BEYOND THE CLEAR ZONE REQUIREMENTS. SEE STD DWG CC8B FOR EXCEPTIONS.
- USE GUARDRAIL TRANSITION, STD DWG BA 4 SERIES, WHEN ATTACHING SYSTEM TO CONCRETE BARRIER OR BRIDGE PARAPET.
- INSTALL REQUIRED MARKINGS AS PER STD DWG CC 1.
- USE THE CURRENT EDITION, ROADSIDE DESIGN GUIDE TO ESTABLISH CLEAR ZONE REQUIREMENT AND LENGTH OF NEED (LON) REQUIREMENTS.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

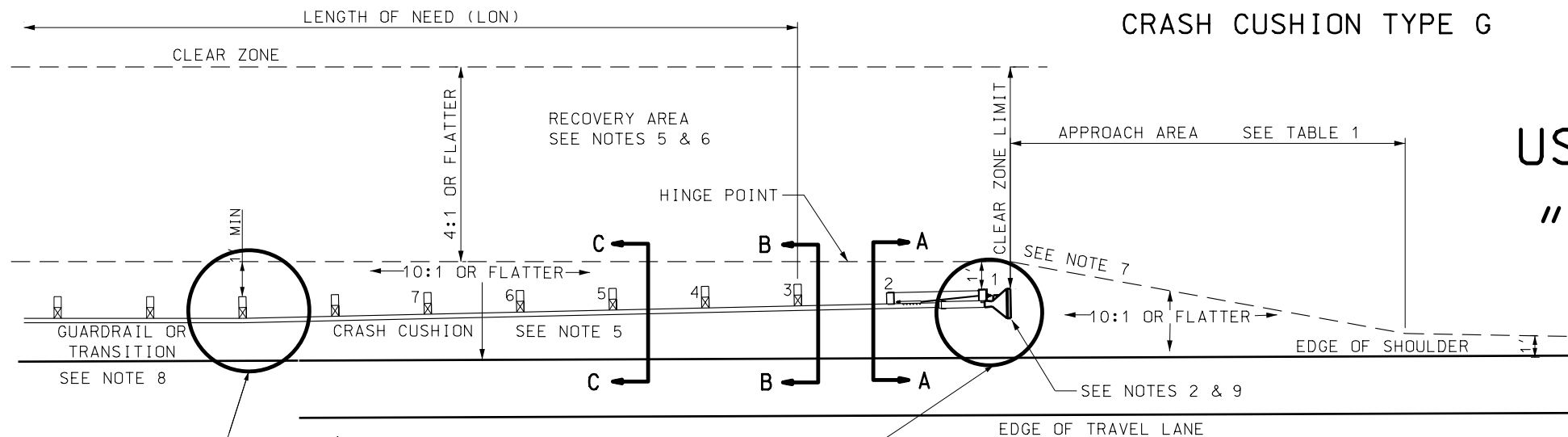
GRADING AND
INSTALLATION DETAILS
CRASH CUSHION
TYPE G

STD DWG
CC 8A

REVISIONS		NO.	DATE	APPR.	REMARKS
1	02/24/05	GS			MODIFIED RECOVERY AREA REQUIREMENTS, REVISED NOTES AND TABLE 1.
2	04/28/05	GS			REISSUED TO CORRECT OVERSIGHT.

RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARDS COMMITTEE
APPROVED
APR. 28, 2005
DEPUTY DIRECTOR
DATE

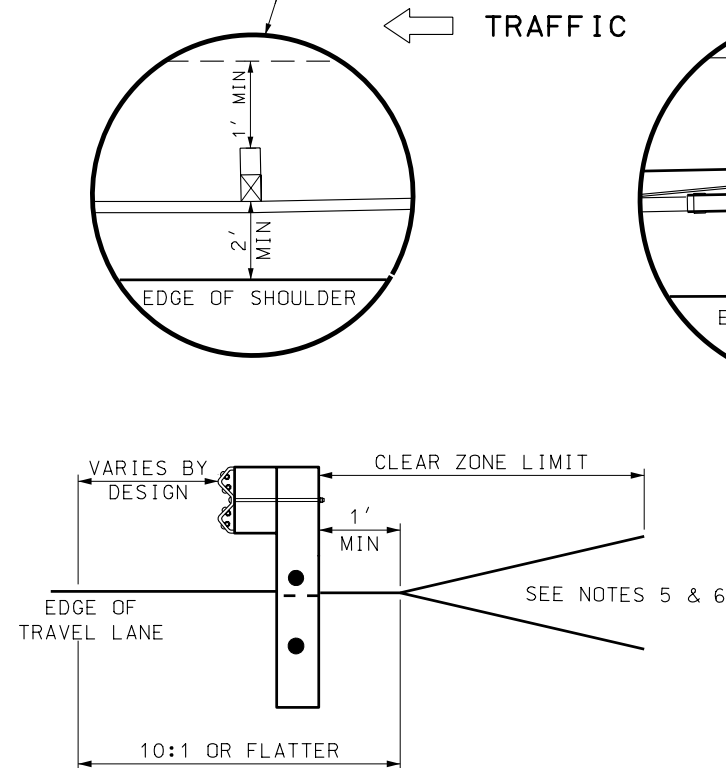
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USE THIS DETAIL FOR
"3R" PROJECTS ONLY

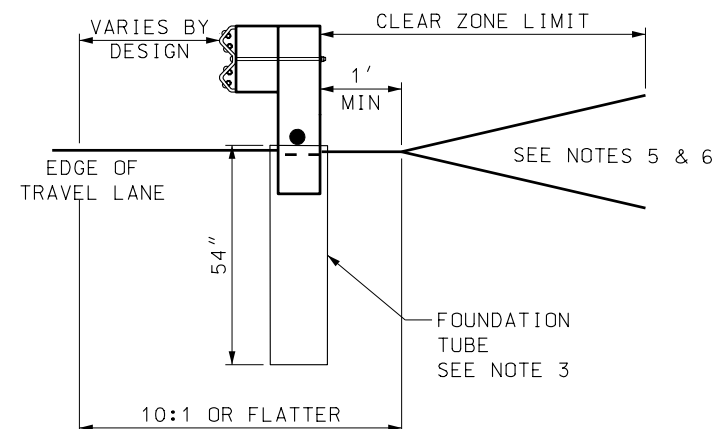
NOTES:

- APPROVED SYSTEMS: ET-2000 AND ET-PLUS MANUFACTURED BY TRINITY INDUSTRIES AND THE SKT-350, MANUFACTURED BY ROAD SYSTEMS INC. REFER TO UDOT'S GUIDELINES FOR CRASH CUSHIONS FOR SPECIFIC SYSTEM DETAILS.
- SYSTEM OFFSET:
 - INSTALL SYSTEM WITH 1 FOOT OFFSET (50:1 FLARE RATE) WHEN USED WITH A TANGENT BARRIER SYSTEM.
 - INSTALL SYSTEM AT THE SAME FLARE RATE AS THE BARRIER INSTALLATION SYSTEM IS BEING ATTACHED TO.
- POST OPTIONS: REFER TO UDOT'S GUIDELINES FOR CRASH CUSHION FOR APPROVED POST OPTIONS.
- RAIL ELEMENTS
 - USE 12 1/2 FOOT RAIL ELEMENTS AS SPECIFIED BY THE SYSTEM MANUFACTURER.
 - DO NOT BOLT RAIL ELEMENT TO POST 1.
 - REFER TO MANUFACTURE SPECIFICATIONS FOR OTHER RAIL TO POST BOLT REQUIREMENTS.
- COMPLETE SLOPE PREPARATIONS PRIOR TO INSTALLING SYSTEM.
 - USE 10:1 OR FLATTER SLOPES IN APPROACH AREAS.
 - CONSTRUCT RECOVER AREA SLOPE AS PER CC8A WHEN CONDITIONS PERMIT. CONSULT ENGINEER FOR ALLOWABLE SLOPES WHEN SLOPE REQUIREMENTS OF CC 8A CANNOT BE MET.
- CLEAR RECOVERY AND APPROACH AREAS OF ANY FIXED OBJECTS.
 - DO NOT PLACE SIGNS OR POLES IN APPROACH AREA.
 - USE BREAKAWAY SIGNS OR POLES WHEN PLACED IN RECOVERY AREA, AND MAINTAIN A MINIMUM 10 FOOT CLEARANCE TO THE SIDES AND REAR OF THE SYSTEM.
- CONSTRUCT PLATFORM AS REQUIRED EVEN IF THE PLATFORM EXTENDS BEYOND THE CLEAR ZONE REQUIREMENT.
- USE GUARDRAIL TRANSITION, STD DWG BA 4 SERIES, WHEN ATTACHING SYSTEM TO CONCRETE BARRIER OR BRIDGE PARAPET.
- INSTALL REQUIRED MARKINGS AS PER STD DWG CC 1.
- USE THE CURRENT EDITION, ROADSIDE DESIGN GUIDE TO ESTABLISH CLEAR ZONE REQUIREMENT AND LENGTH OF NEED (LON) REQUIREMENTS.

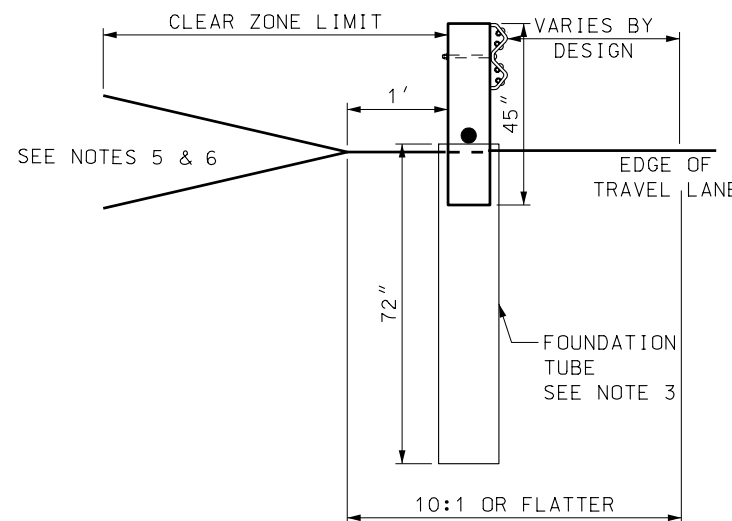


TYPICAL SECTION C-C
POSTS 5-8

TABLE 1	
SPEED MPH	TAPER
LESS THAN 40	7:1
40 TO 55	10:1
60 TO 75	15:1



TYPICAL SECTION B-B
POSTS 3-4



TYPICAL SECTION A-A
POSTS 1-2

REVISIONS

1 02/24/05 GS NEW DRAWING.
2 04/28/05 GS REISSUED TO CORRECT OVERSIGHT.

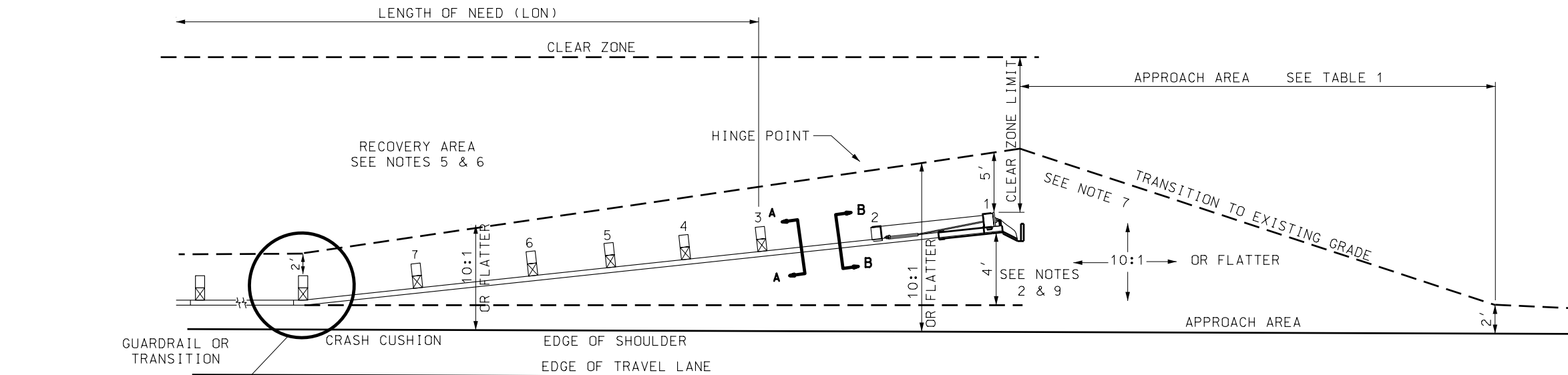
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
RECOMMENDED FOR APPROVAL
SALT LAKE CITY

APR 28 2005
DATE
APR 28 2005
DATE
DEPUTY DIRECTOR

GRADING AND
INSTALLATION DETAILS
FOR "3R" PROJECTS
CRASH CUSHION TYPE G

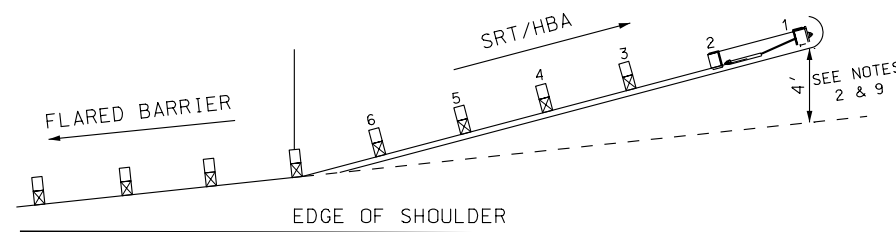
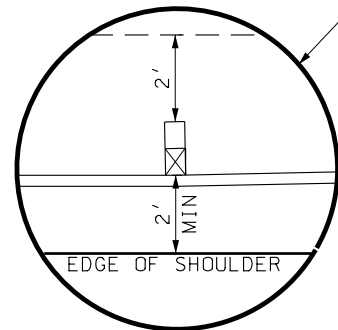
STD DWG
CC 8B

10-MAY-2005 DGN File: L:\Standard Drawings\Impenal\2005\Approved\Change2\Approved\CC09a.dgn

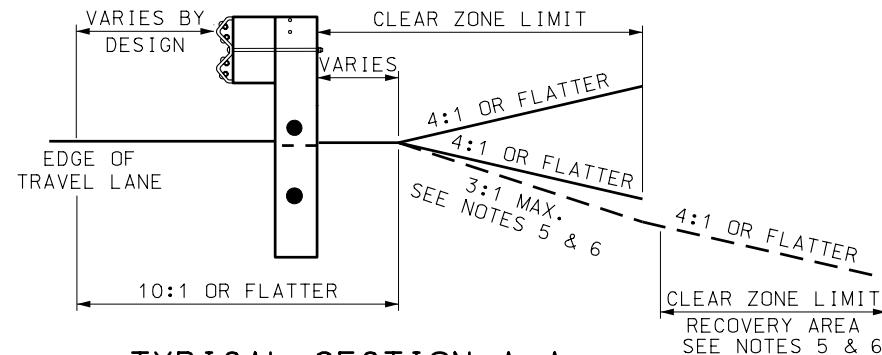


FLEAT - 350 / SRT/HBA

WOOD POST
OPTION SHOWN
SEE NOTES 3 & 8

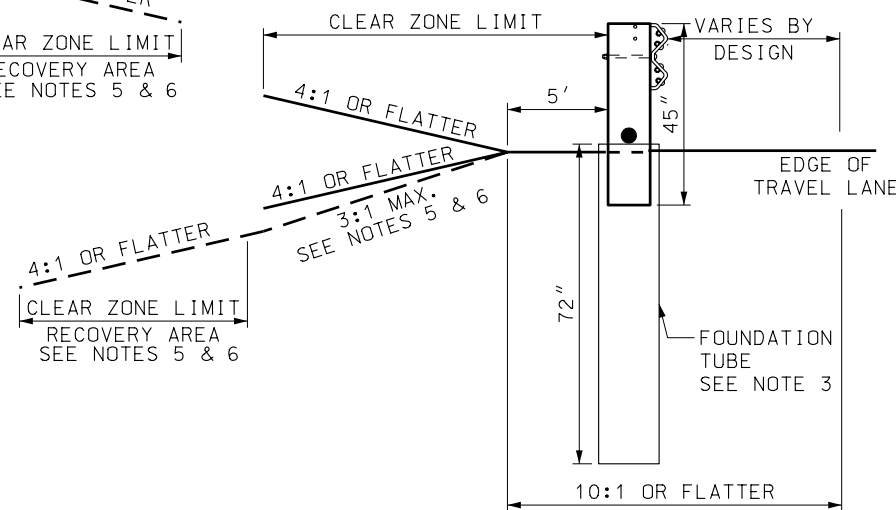


SRT/HBA WITH FLARED BARRIER



TYPICAL SECTION A-A
POST 3-8

TABLE 1	
SPEED MPH	TAPER
LESS THAN 40	7:1
40 TO 55	10:1
60 TO 75	15:1



TYPICAL SECTION B-B
POST 1-2

NOTES:

- APPROVED SYSTEMS: FLEAT 350, MANUFACTURED BY ROAD SYSTEMS, INC. AND SRT/HBA MANUFACTURED BY TRINITY INDUSTRIES REFER TO UDOT'S GUIDELINES FOR CRASH CUSHIONS FOR SPECIFIC SYSTEM DETAILS.
- SYSTEM OFFSET:
 - INSTALL SYSTEM WITH A 4 FOOT OFFSET WHEN USED WITH A TANGENT BARRIER SYSTEM.
 - FLEAT-350: INSTALL AT THE SAME FLARE RATE AS THE BARRIER INSTALLATION.
 - SRT/HBA: INSTALL SYSTEM WITH A 4 FOOT OFFSET, FROM THE FLARED BARRIER EXTENDED.
- POST OPTIONS: REFER TO UDOT'S GUIDELINES FOR CRASH CUSHIONS FOR APPROVED POST OPTIONS.
 - SRT/HBA: THE LAST POST OF THE GUARDRAIL INSTALLATION OR THE GUARDRAIL TRANSITION ELEMENT (POST #11) WILL BE SUBSTITUTED WITH A CRT POST AS PER MANUFACTURER'S REQUIREMENTS.
- USE 12 1/2 FOOT RAIL SECTIONS (3 EACH SECTIONS), SLOTTED AS PER MANUFACTURER'S REQUIREMENTS.
- COMPLETE SLOPE PREPARATION PRIOR TO INSTALLING SYSTEM.
 - USE 10:1 OR FLATTER SLOPES IN APPROACH AREA.
 - USE 4:1 OR FLATTER FORESLOPE OR BACKSLOPE IN THE RECOVERY AREA.
 - IF A 4:1 FORESLOPE, IN RECOVERY AREA IS IMPRACTICAL USE A MAXIMUM 3:1 FORESLOPE. ESTABLISH A RECOVERY AREA AT THE TOE OF THE 3:1 FORESLOPE OF 4:1 OR FLATTER.
 - USE A 4:1 BACKSLOPE TO THE CLEAR ZONE LIMIT IN THE RECOVERY AREA IF A 4:1 CANNOT BE ESTABLISHED A 3:1 IS PERMITTED.
- CLEAR RECOVERY AND APPROACH AREAS OF ANY FIXED OBJECTS.
 - DO NOT PLACE SIGNS OR POLES IN APPROACH AREA.
 - USE BREAKAWAY SIGNS OR POLES WHEN PLACED IN RECOVERY AREA, AND MAINTAIN A MINIMUM 10 FOOT CLEARANCE TO THE SIDES AND REAR OF SYSTEM.
- CONSTRUCT PLATFORM AS REQUIRED EVEN IF THE PLATFORM EXTENDS BEYOND THE CLEAR ZONE REQUIREMENTS.
- USE GUARDRAIL TRANSITION, STD DWG BA 4 SERIES, WHEN ATTACHING THE SYSTEM TO CONCRETE BARRIER OR BRIDGE PARAPET.
 - SRT/HBA: REPLACE THE LAST POST OF THE TRANSITION WITH A CRT POST. SEE NOTE 3.
- INSTALL REQUIRED MARKINGS AS PER STD DWG CC 1.
- USE THE CURRENT ROADSIDE DESIGN GUIDE TO ESTABLISH CLEAR ZONE REQUIREMENT AND LENGTH OF NEED (LON) REQUIREMENTS.

REVISIONS	
1	02/24/05 GS MODIFIED RECOVERY AREA REQUIREMENTS, REVISED NOTES AND TABLE 1, ADDED SRT/HBA FLARED BARRIER DETAIL.
2	04/28/05 GS REISSUED TO CORRECT OVERSIGHT.
NO.	DATE
APPR.	DATE
REMARKS	

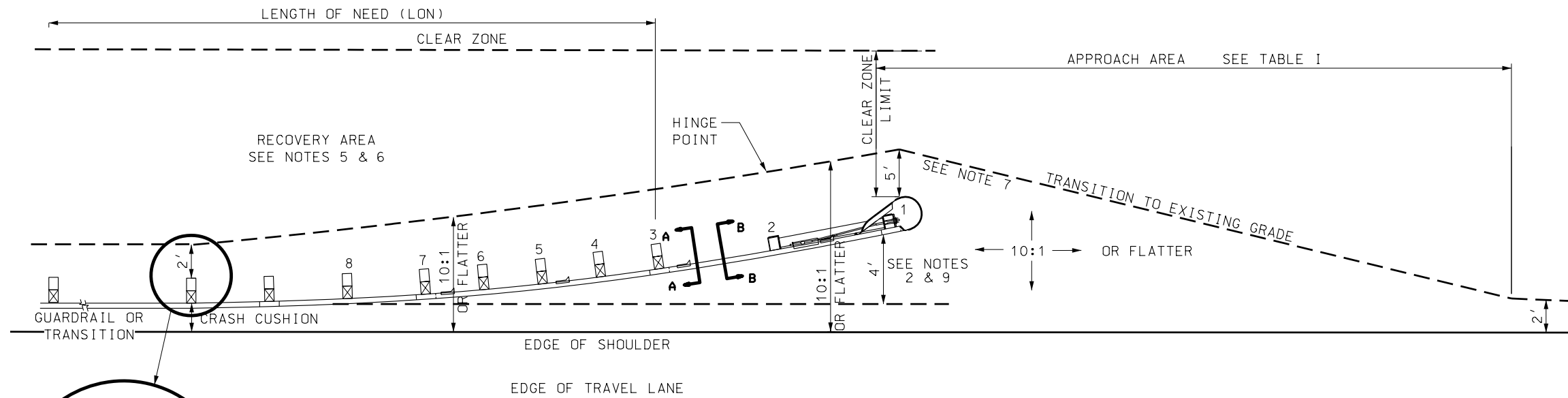
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
RECOMMENDED FOR APPROVAL
SALESMAN

APR. 28, 2005
DATE
APR. 28, 2005
DATE
DEPUTY DIRECTOR

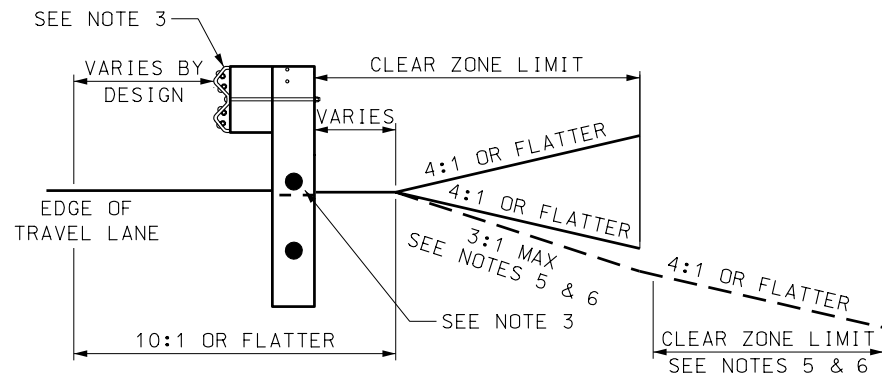
GRADING AND
INSTALLATION DETAILS
CRASH CUSHION TYPE H
STANDARD DRAWING TITLE

STD DWG
CC 9A

10-MAY-2005 DGN File: L:\Standard Drawings\Impervial\2005\Approved\Change2\Approved\CC09B.dgn

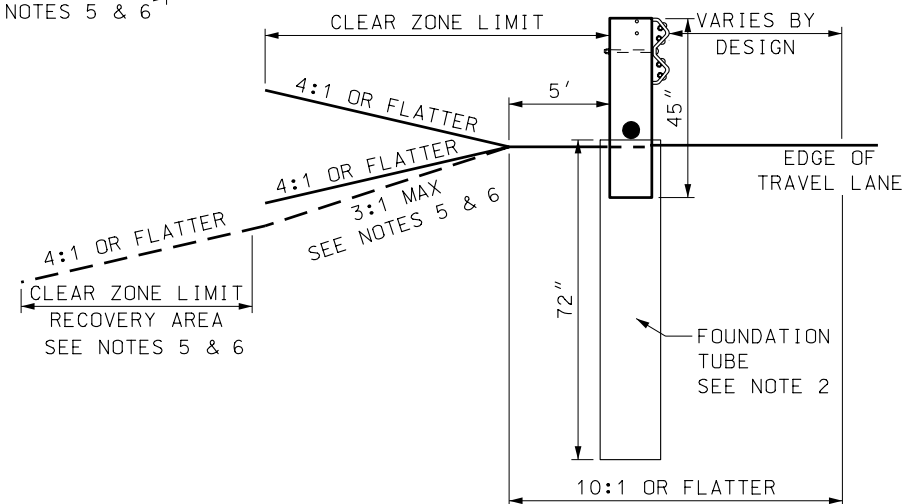


SRT-350
(8 POSTS)
SEE NOTE 1



TYPICAL SECTION A-A
POSTS 3-8

TABLE 1	
SPEED MPH	TAPER
LESS THAN 40	7:1
40 TO 55	10:1
60 TO 75	15:1



TYPICAL SECTION B-B
POSTS 1-2

NOTES:

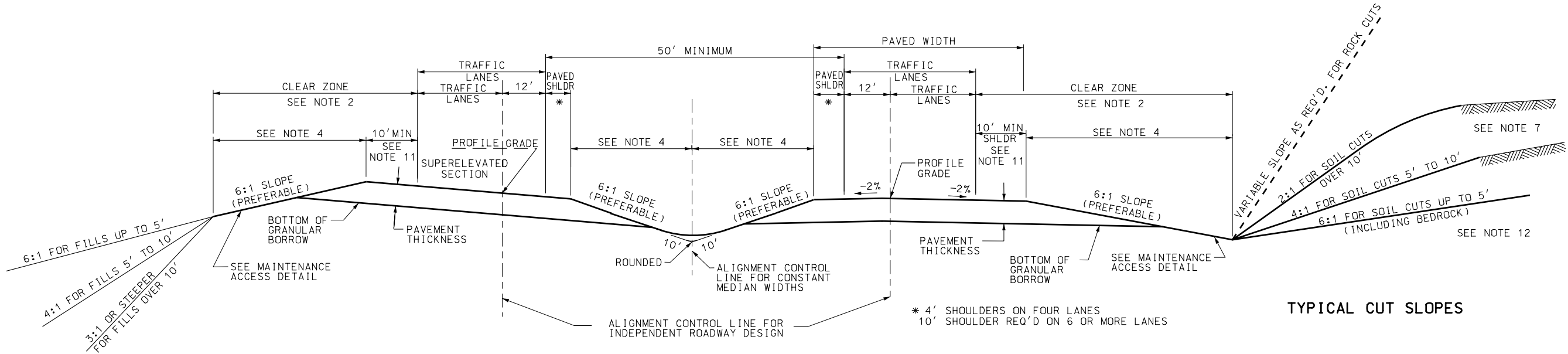
- APPROVED SYSTEM: SRT 350 MANUFACTURED BY TRINITY INDUSTRIES REFER TO UDOT'S GUIDELINES FOR CRASH CUSHIONS FOR SPECIFIC SYSTEM DETAILS.
- SYSTEM OFFSET:
 - THE SRT-350 INCORPORATES A PARABOLIC FLARE. INSTALL SYSTEM WITH A 4 FOOT OFFSET FROM THE BARRIER LINE EXTENDED ON BOTH A TANGENT AND FLARED INSTALLATION.
- POST OPTIONS:
 - WOOD POST ONLY
 - POSTS 1 AND 2, 45 INCH BREAKAWAY POSTS SET INSIDE 6 FOOT FOUNDATION TUBES. TUBES NO GREATER THAN 4 INCHES ABOVE GROUND.
 - POSTS 3 THROUGH 8 STANDARD CRT POST. THE BOTTOM OF THE TOP HOLE OF THE CRT POLE IS PLACED AT GROUND LEVEL.
- USE 12½ FOOT RAIL SECTIONS (3 EACH SECTIONS), SLOTTED AS PER MANUFACTURER'S REQUIREMENTS.
- COMPLETE SLOPE PREPARATION PRIOR TO INSTALLING SYSTEM.
 - USE 10:1 OR FLATTER SLOPES IN APPROACH AREA.
 - USE 4:1 OR FLATTER FORESLOPE OR BACKSLOPE IN THE RECOVERY AREA.
 - IF A 4:1 FORESLOPE. IN RECOVERY AREA IS IMPRACTICAL USE A MAXIMUM 3:1 FORESLOPE. ESTABLISH A RECOVERY AREA AT THE TOE OF THE 3:1 FORESLOPE OF 4:1 OR FLATTER.
 - USE A 4:1 BACKSLOPE TO THE CLEAR ZONE LIMIT IN THE RECOVERY AREA. IF A 4:1 CANNOT BE ESTABLISHED A 3:1 IS PERMITTED.
- CLEAR RECOVERY AND APPROACH AREAS OF ANY FIXED OBJECTS.
 - DO NOT PLACE SIGNS OR POLES IN APPROACH AREA.
 - USE BREAKAWAY SIGNS OR POLES WHEN PLACED IN RECOVERY AREA. MAINTAIN A MINIMUM 10 FOOT CLEARANCE TO THE SIDES AND REAR OF SYSTEM.
- CONSTRUCT PLATFORM AS REQUIRED EVEN IF THE PLATFORM EXTENDS BEYOND THE CLEAR ZONE REQUIREMENTS.
- USE GUARDRAIL TRANSITION, STD DWG BA 4 SERIES, WHEN ATTACHING THE SYSTEM TO CONCRETE BARRIER OR BRIDGE PARAPET.
- INSTALL REQUIRED MARKINGS AS PER STD DWG CC 1.
- USE THE CURRENT ROADSIDE DESIGN GUIDE TO ESTABLISH CLEAR ZONE REQUIREMENT AND LENGTH OF NEED (LON) REQUIREMENTS.

REVISIONS	
NO.	DATE
1	02/24/05
2	04/28/05

UTAH DEPARTMENT OF TRANSPORTATION	
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION	
RECOMMENDED FOR APPROVAL	
DATE	APPROVED
APR.28.2005	
DATE	DEPUTY DIRECTOR
APR.28.2005	

GRADING AND INSTALLATION DETAILS	
CRASH CUSHION TYPE H (PARABOLIC FLARE)	
STANDARD DRAWING TITLE	
STD DWG	CC 9B

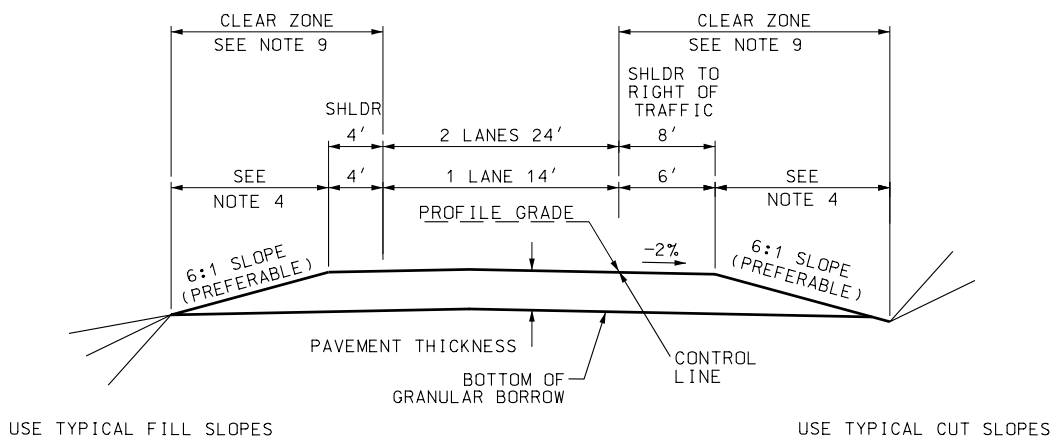
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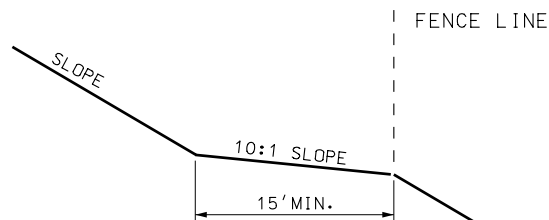
TYPICAL SECTION ON CURVE

TYPICAL SECTION ON TANGENT

TYPICAL FILL SLOPES



TYPICAL RAMF



MAINTENANCE ACCESS DETAIL

SEE NOTE 13

NOTES:

1. USE THE CURRENT EDITION OF AASHTO AASHTO ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS FOR DESIGN OF ROADWAY ELEMENTS.
2. USE THE CURRENT EDITION OF AASHTO ROADSIDE DESIGN GUIDE FOR CLEAR ZONE REQUIREMENTS. CLEAR ZONE MAY EXTEND INTO CUT OR FILL SLOPES.
3. STANDARDS SHOWN ARE RECOMMENDED VALUES. EXCEED STANDARDS IF CONDITIONS PERMIT.
4. IN FILL CONDITIONS MAINTAIN A CONSTANT SLOPE FROM THE EDGE OF THE PAVEMENT TO THE OUTER EDGE OF THE CLEAR ZONE. IN CUT CONDITIONS MAINTAIN A CONSTANT SLOPE FROM THE EDGE OF THE PAVEMENT TO THE BOTTOM OF THE GRANULAR BORROW LAYER OR PROVIDE OTHER MEASURES TO DRAIN ALL PAVEMENT THICKNESS LAYERS. MAINTAIN A MINIMUM OF ONE FOOT VERTICAL DISTANCE FROM THE BOTTOM OF THE GRANULAR BORROW LAYER TO THE BOTTOM OF THE CUT DITCH. THERE MAY BE CUT FORESLOPES AND BACKSLOPES IN THE CLEAR ZONE.
5. TRANSITION FROM FLAT TO STEEPER CUT AND FILL SLOPES IN SUFFICIENT DISTANCE TO PROVIDE A NATURAL PLEASING APPEARANCE.
6. PAVEMENT THICKNESS CONSISTS OF HARD SURFACING, UTBC AND GRANULAR BORROW (IF USED).
7. INSTALL SURFACE DITCH (OPTIONAL) WHEN SHEET FLOW DRAINAGE IS TOWARDS CUT SLOPE. DRAIN SURFACE DITCH TO NATURAL DRAINAGE OR ROADSIDE DITCH. PROVIDE OTHER MEASURES TO PREVENT ERODING CUT SLOPES IF SURFACE DITCH IS OMITTED. SEE STD DWG DD 2 FOR DETAILS.
8. SEE STD DWG DD 2 FOR TYPICAL SECTION ON DITCH FLARING AND BENCHED SLOPE.
9. DESIGN SPEED CHANGES THROUGHOUT LENGTH OF RAMP. USE APPLICABLE CLEAR ZONE.
10. USE A 12' MINIMUM OUTSIDE SHOULDER WHEN HEAVY TRUCK TRAFFIC EXCEEDS 250 DDHV.
11. RANGE OF SUPERELEVATION IS THE PAVED WIDTH.
12. THE SLOPES SHOWN FOR CUT AND FILL HEIGHTS ARE SUGGESTED VALUES. SLOPES MAY DEViate FROM THESE SUGGESTED VALUES TO MEET PROJECT SPECIFIC REQUIREMENTS.
13. PROVIDE MAINTENANCE ACCESS OF 15' MINIMUM WIDTH ON A 10:1 MAXIMUM SLOPE FROM TOE OF SLOPE TO FENCE LINE WHERE POSSIBLE.

REVISIONS			
NO.	DATE	APPR.	REMARKS
1	02/24/05	B.J.	ADDED MAINTENANCE ACCESS DETAIL. REVISED MINIMUM MEDIAN WIDTH, MADE 6:1 SLOPE A PREFERABLE DIMENSION. NOTE 13 ADDED.
2	04/28/05	B.A.	CORRECTED TYPO IN REVISION 1 INFO.

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

RECOMMENDED FOR APPROVAL

CHAIRMAN STANDARDS COMMITTEE

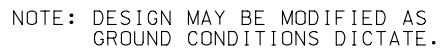
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REMARKS

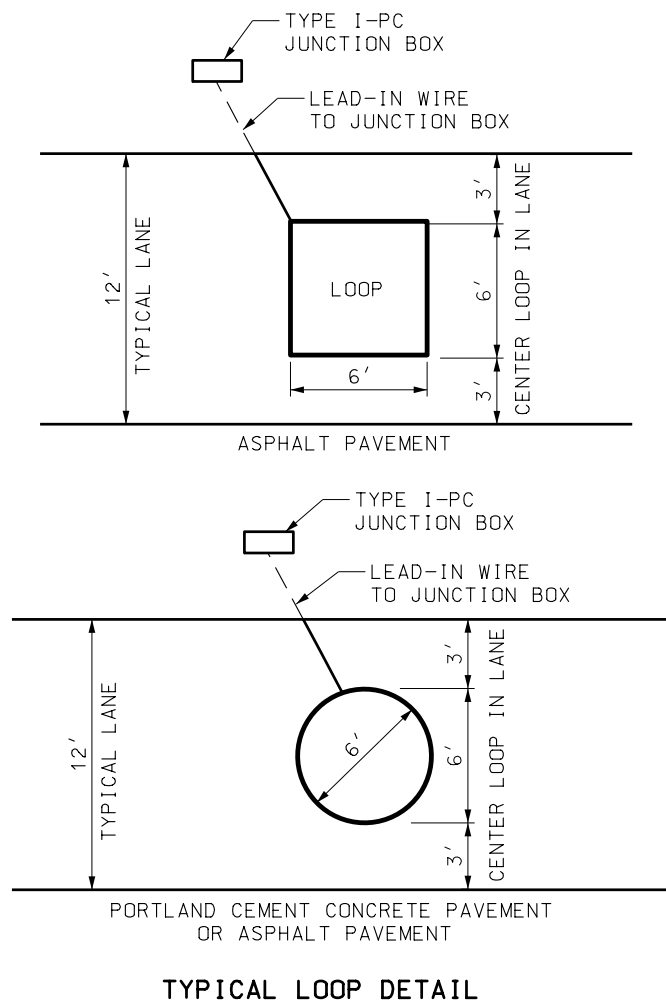
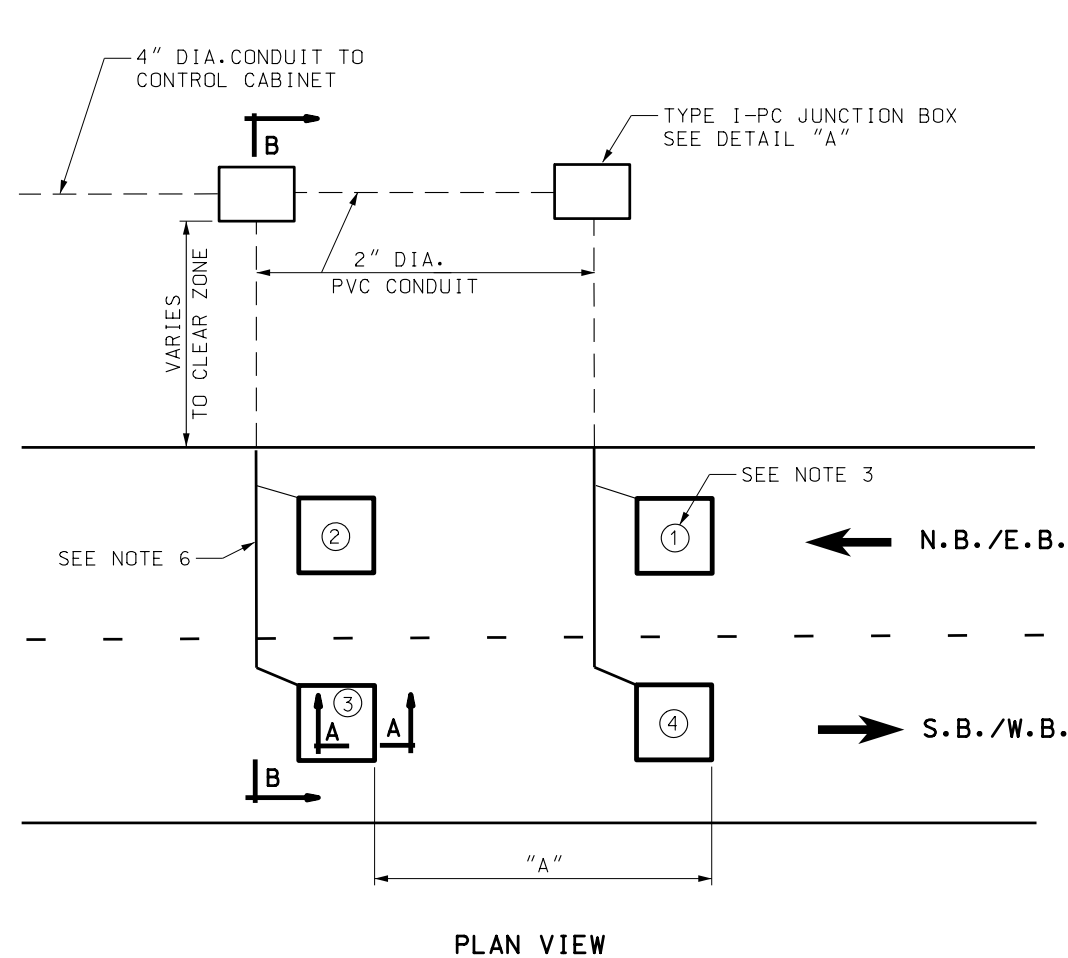
GEOMETRIC DESIGN FOR FREEWAYS (ROADWAY)

STANDARD DRAWING TITLE

STD DWG
DD 4

REMARKS

10-MAY-2005 DGN File: L:\Standard Drawings\Internal\2005\Approved\Change2\Approved\112.dgn



NOTES:

1. USE SCHEDULE 40 PVC CONDUIT.
2. SEE PLAN SHEETS FOR DETECTOR LOOP LOCATIONS, STATION AND OFFSET GIVEN FOR CENTER LOOP-ADJUST LOOP PLACEMENT TO AVOID CRACKED SLABS OR CUTTING THROUGH JOINTS.
3. TAG EACH LOOP WIRE IN EACH JUNCTION BOX. NUMBER EACH LOOP CONSECUTIVELY. BEGIN WITH FIRST LOOP IN NORTH BOUND (EAST BOUND) LANE CLOSEST TO SHOULDER - IN DIRECTION OF TRAFFIC, THEN SECOND LOOP IN SAME LANE, THEN ADJACENT LANE, ENDING WITH SECOND LOOP IN OPPOSITE DIRECTION LANE CLOSEST TO SHOULDER.
4. USE SEPARATE WIRE FOR EACH LOOP. EACH LOOP WIRE TO BE CONTINUOUS, WITH NO SPLICES, EXCEPT WITH THE LEAD-IN WIRE AT THE JUNCTION BOX.
5. ALL LOOPS TO HAVE FOUR TURNS OF WIRE IN THE SAME DIRECTION, COUNTER CLOCKWISE. DO NOT TWIST WIRES IN LOOP.
6. TWIST WIRES BETWEEN LOOP AND JUNCTION BOX. ONE TWIST PER FOOT IN SAW CUT, THREE TWISTS PER FOOT IN CONDUIT.
7. INSTALL ALL CONDUCTORS IN SAW CUT. PLACE CABLE OR WIRE AT BOTTOM OF DRY SLOT. USE EPOXY SEAL WHICH DOES NOT CONTAIN ACETONE SOLVENT TO CLOSE SAW CUT.

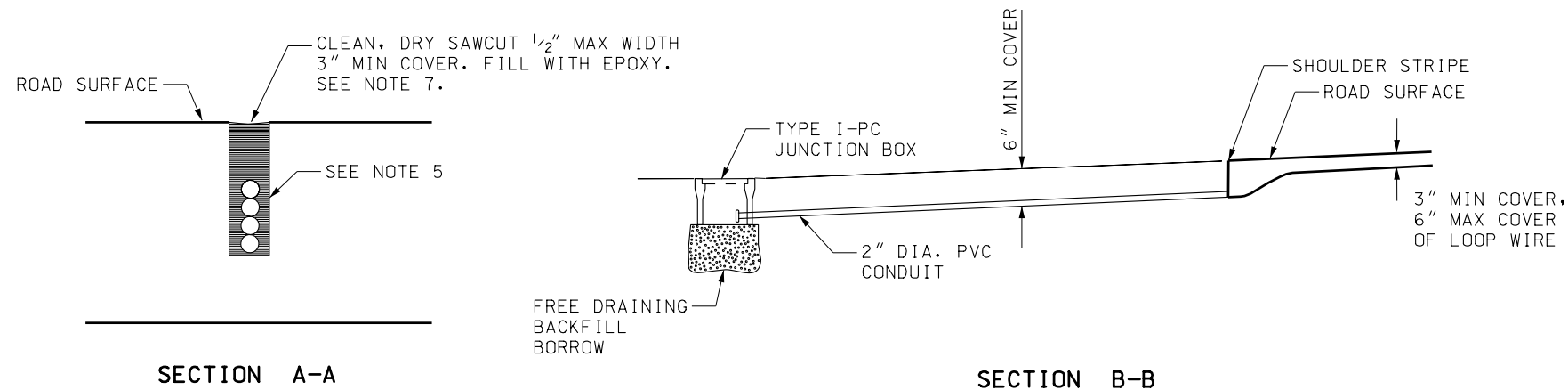
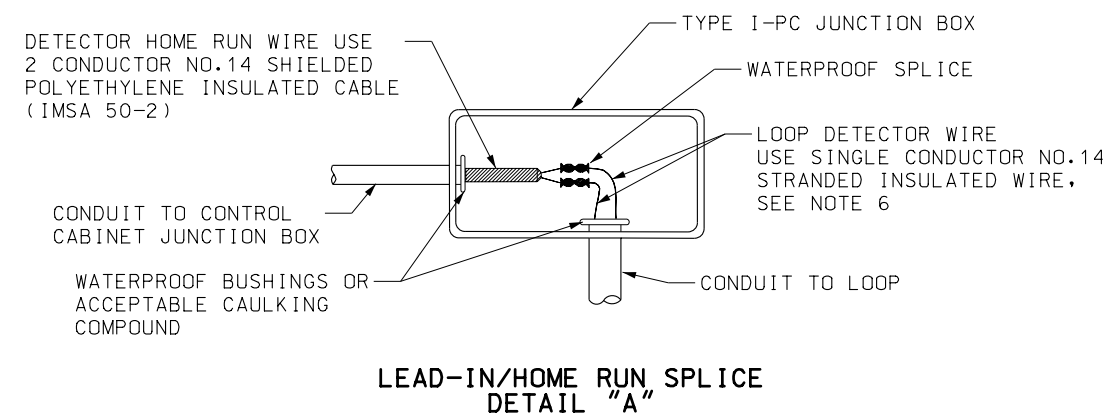


TABLE 1. LOOP SPACING

LOOP TYPE	"A"
TRAFFIC COUNTING LOOP FOR PERMANENT COUNT STATIONS	16' ± 1"
TRAFFIC MONITORING STATION FOR ATMS	21' ± 1"



UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE COUNTY

TRAFFIC COUNTING
LOOP DETECTOR
DETAILS

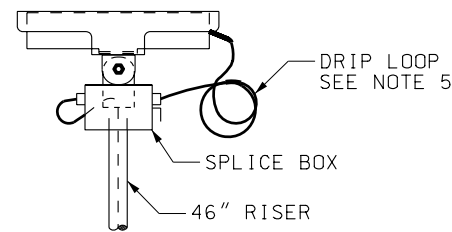
STD DWG
SL 12

REVISIONS
1 04/28/05 S.S. NOTES UPDATED, TABLE ADDED.

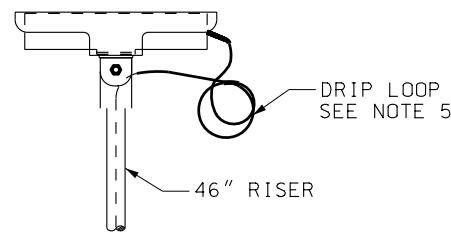
RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARD'S COMMITTEE
APR.28,2005
DATE
DEPUTY DIRECTOR
APR.28,2005
DATE

STANDARD DRAWING TITLE

REMARKS

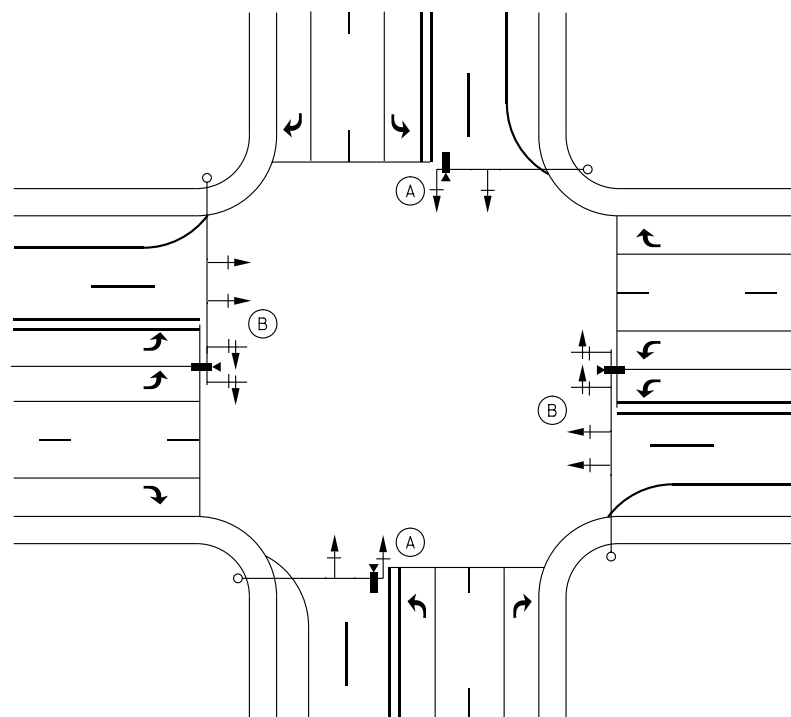


TYPE A



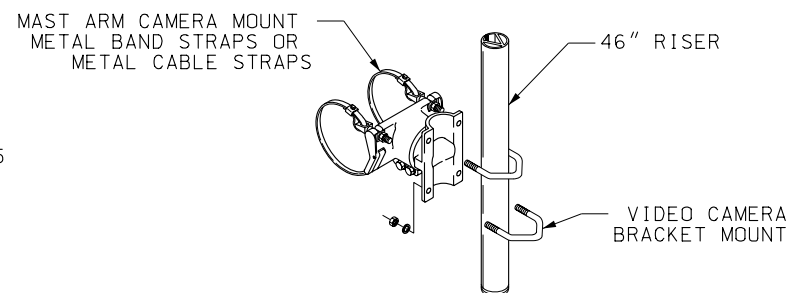
TYPE B

VIDEO DETECTION CAMERA

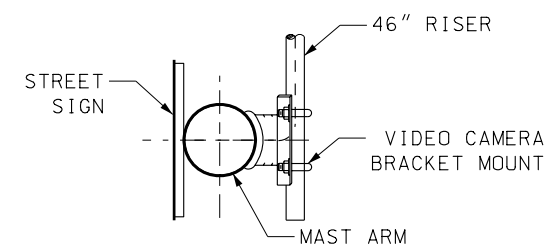


VIDEO DETECTION CAMERA PLACEMENT TYPICAL APPROACH DETECTION LAYOUT

- (A) SINGLE LEFT TURN LANE:
PLACE CAMERA TOWARD END OF MAST ARM TO ALIGN WITH THE 8" WHITE LANE LINE WHERE POSSIBLE.
SEE NOTE 4 AND NOTE 7.
- (B) DOUBLE LEFT TURN LANES:
CENTER THE CAMERA BETWEEN THE TWO LEFT TURN LANES.
SEE NOTE 4.

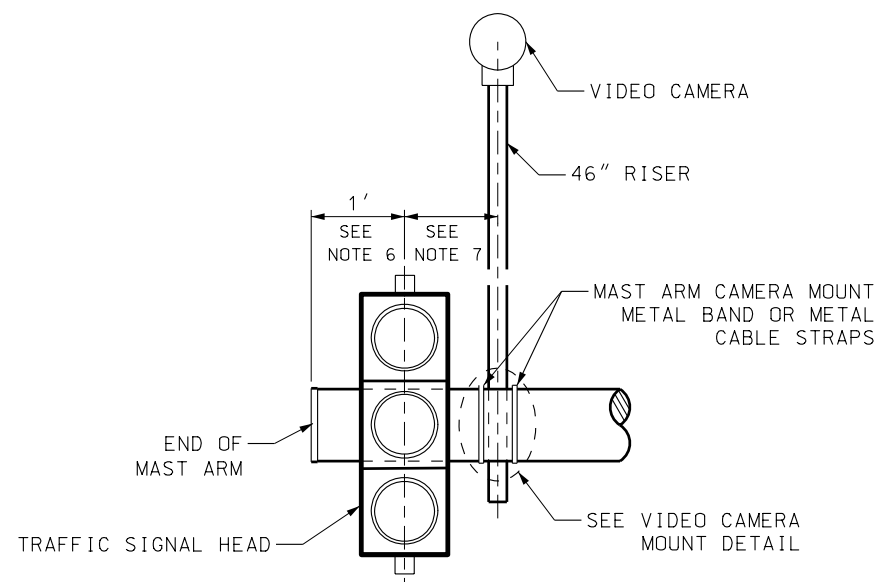


MOUNTING ASSEMBLY
SEE NOTE 2

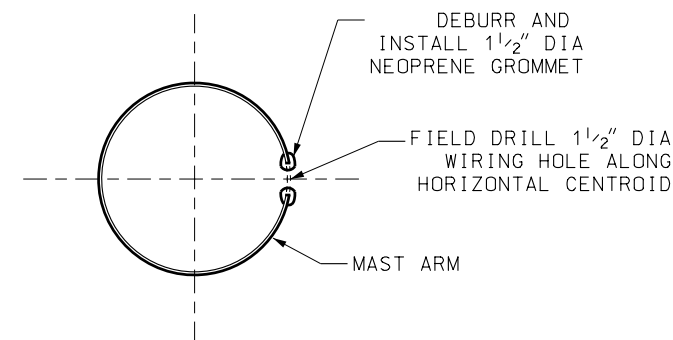


MOUNTING DIRECTION
SEE NOTE 2

VIDEO CAMERA MOUNT DETAIL



FRONT VIEW



DETAIL "A"
SEE STD DWG SL 2

NOTES:

- SEE STD DWG SL 1A AND SL 1B FOR SIGNAL POLE AND MAST ARM NOTES AND DETAILS.
- INSTALL VIDEO CAMERA AND CAMERA MOUNTING ASSEMBLY ON BACK SIDE OF MAST ARM.
- FIELD DRILL 1 1/2" DIAMETER WIRING HOLE ALONG THE HORIZONTAL CENTROID OF THE MAST ARM AT EACH CAMERA MOUNT LOCATION. DEBURR AND INSTALL NEOPRENE GROMMET FOR WIRE PROTECTION PRIOR TO INSTALLING CAMERA MOUNT ASSEMBLY. SEE DETAIL A.
- FINAL CAMERA PLACEMENT, AIMING AND FOCUSING TO BE APPROVED BY REGION SIGNAL ENGINEER.
- SECURE DRIP LOOP WITH A CABLE ZIP TIE.
- INSTALL TRAFFIC SIGNAL HEAD ONE FOOT FROM END OF MAST ARM TO CENTER OF SIGNAL HEAD. PLACE SIGNAL HEADS PER DESIGN PLANS.
- INSTALL VIDEO CAMERA 46" RISER MINIMUM ONE FOOT FROM CENTER OF TRAFFIC SIGNAL HEAD AND PER NOTE DETAIL LAYOUT (A) AND (B). SEE NOTE 4.

REVISIONS

1 04/28/05 T.S. NEW DRAWING.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARD COMMITTEE
APPROVED

DATE
APR.28.2005

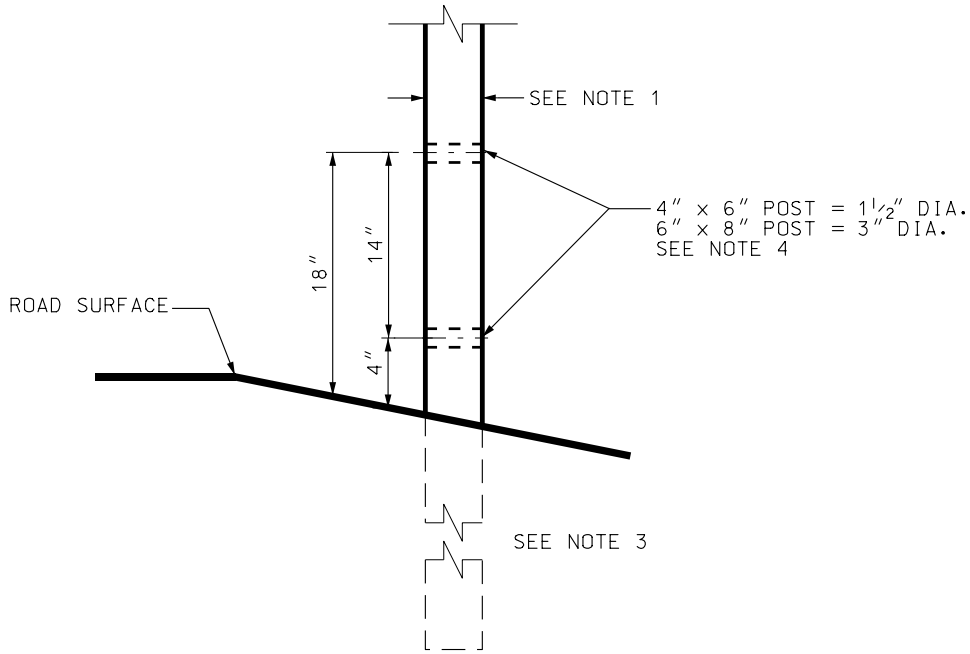
DATE
APR.28.2005

DEPUTY DIRECTOR

VIDEO DETECTION
CAMERA MOUNT

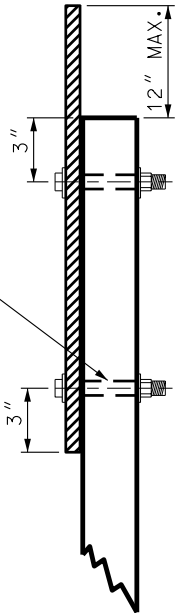
STANDARD DRAWING TITLE

STD DWG
SL 13

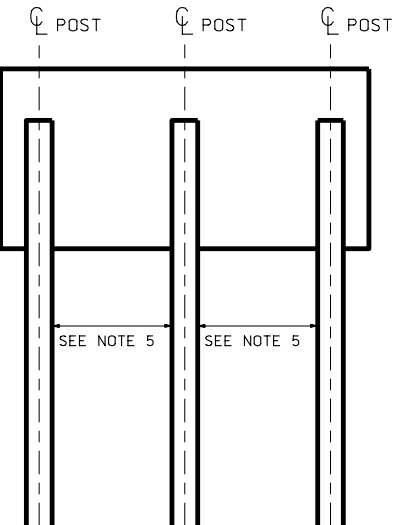


WEAKENED POST
DETAIL

3/8" DIA. x 5" FOR 4" x 4" POST
3/8" DIA. x 7" FOR 4" x 6" POST
3/8" DIA. x 9" FOR 6" x 8" POST
ZINC PLATED MACHINE
BOLT W/ 3/8" DIA. WASHER



SIDE VIEW



MULTIPLE POST SIGN

TIMBER SIGN POSTS (Nominal)												
VERTICAL SIGN DIMENSION (inches)	HORIZONTAL SIGN DIMENSION (inches)											
	12	24	36	48	60	72	84	96	108	120	132	144
	12	1 - 4x4 4	1 - 4x4 4	1 - 4x4 4	1 - 4x4 4	2 - 4x4 4	2 - 4x4 4	2 - 4x4 4	2 - 4x4 4	2 - 4x4 4	2 - 4x4 4	2 - 4x4 4
	18	1 - 4x4 4	1 - 4x4 4	1 - 4x4 4	1 - 4x6 4	2 - 4x4 4	2 - 4x4 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4
	24	1 - 4x4 4	1 - 4x4 4	1 - 4x6 4	1 - 4x6 4	2 - 4x4 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4
	30	1 - 4x4 4	1 - 4x4 4	1 - 4x6 4	1 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	3 - 4x6 4	3 - 4x6 4
	36	1 - 4x4 4	1 - 4x6 4	1 - 4x6 4	1 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	3 - 4x6 4	3 - 4x6 4	3 - 4x6 4	3 - 4x6 4
	42	1 - 4x4 4	1 - 4x6 4	1 - 4x6 4	1 - 4x6 4	2 - 4x6 4	2 - 4x6 4	3 - 4x6 4	3 - 4x6 4	3 - 4x6 4	2 - 6x8 5	2 - 6x8 5
	48	1 - 4x4 4	1 - 4x6 4	1 - 4x6 4	2 - 4x6 4	2 - 4x6 4	2 - 4x6 4	3 - 4x6 4	3 - 4x6 4	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5
	54	1 - 4x4 4	1 - 4x6 4	1 - 6x8 5	2 - 4x6 4	2 - 4x6 4	1 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5
	60	1 - 4x6 4	1 - 4x6 4	1 - 6x8 5	2 - 4x6 4	1 - 6x8 5	1 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5
	66	1 - 4x6 4	1 - 4x6 4	1 - 6x8 5	2 - 4x6 4	1 - 6x8 5		2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	2 - 6x8 5	
	72	1 - 4x6 4	1 - 6x8 5	1 - 6x8 5	1 - 6x8 5	1 - 6x8 5		2 - 6x8 5	2 - 6x8 5	2 - 6x8 5		

LEGEND 2 - 4x6 5 NUMBER & SIZE (inch x inch) OF POSTS
— EMBEDMENT DEPTH IN FEET

NOTES:

1. NARROW POST DIMENSION TO FACE TRAFFIC.
2. USE ONE 4"x 6" POST FOR MULTIPLE SIGN INSTALLATION ON SINGLE POST, EXCLUDING ROUTE MARKERS.
3. MINIMUM DEPTH OF EMBEDMENT: 4' UNLESS 5' IS SHOWN.
4. FIELD DRILL TWO HOLES IN THE CENTER OF THE POST. DRILL PERPENDICULAR TO THE CENTER LINE OF THE ROAD.
5. MINIMUM SPACING BETWEEN POST: POST SIZE SPACING
FOR 3 OR MORE POSTS 4" x 4" = 4'
FOR 3 OR MORE POSTS 4" x 6" = 4'
FOR 2 OR MORE POSTS 6" x 8" = 7'

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE COUNTY

RECOMMENDED FOR APPROVAL

CHAIRMAN STANDARDS COMMITTEE

APPROVED

DEPUTY DIRECTOR

GROUND MOUNTED
TIMBER SIGN POST (P1)

STD DWG
SN 8

REVISIONS

1 04/28/05 B.A.

CORRECTED NOTE CALLOUT IN WEAKENED POST DETAIL.

REMARKS

NO. DATE

APPR.

DATE

DATE

DATE

DATE

DATE

DATE

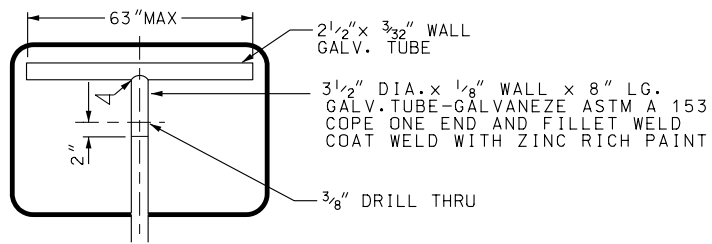
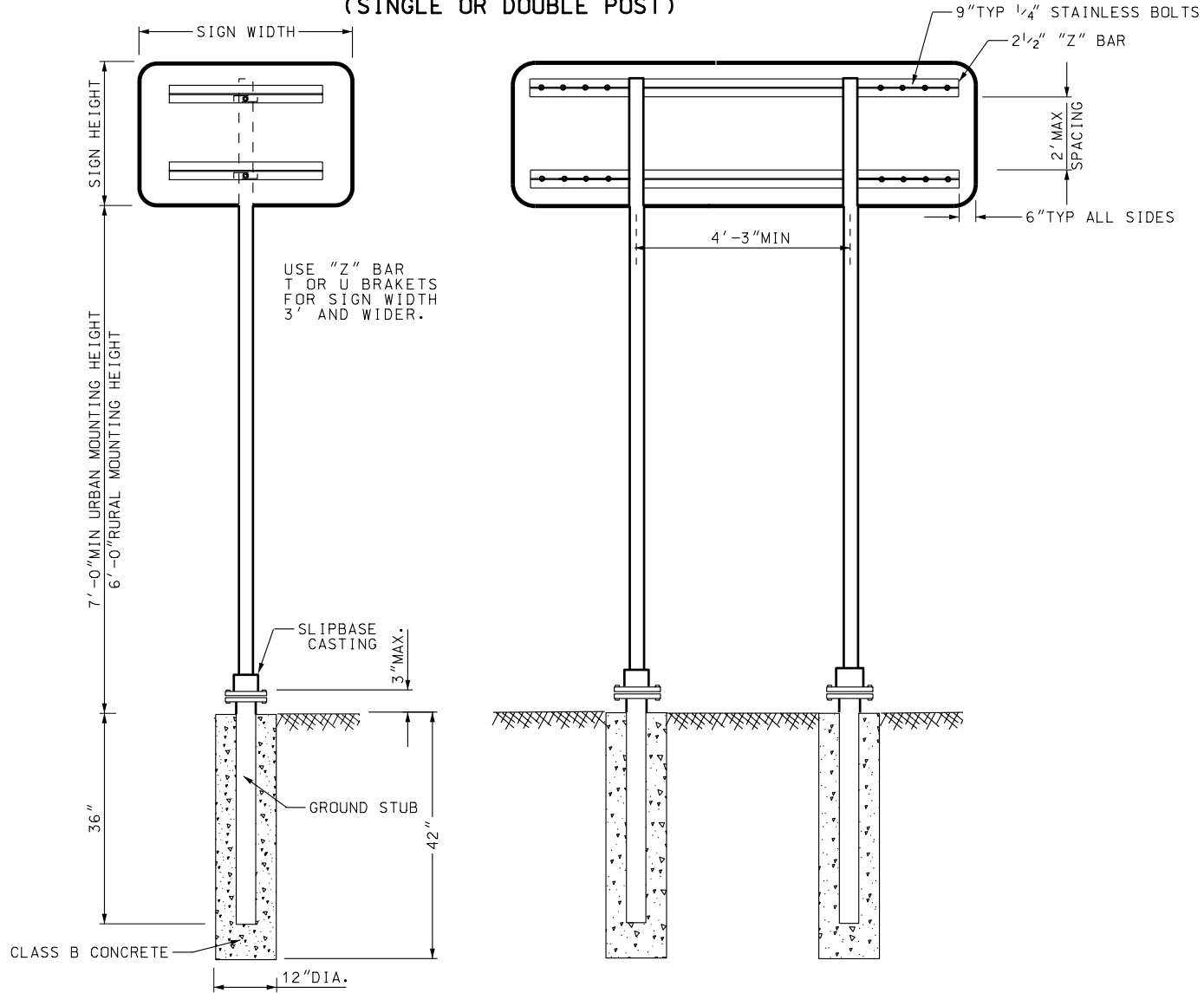
DATE

DATE

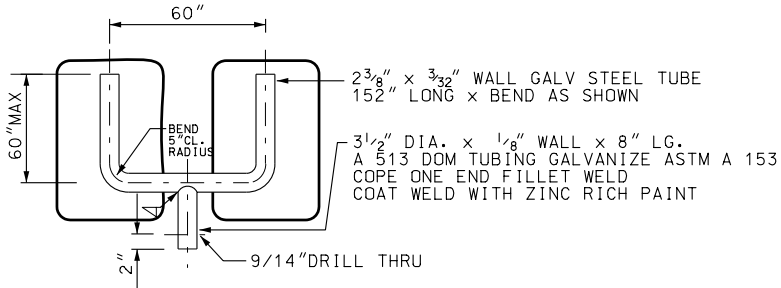
DATE

10-MAY-2005 DGN File: L:\Standard Drawings\Impervial\2005\Approved\Change2\Approved\vn1.dgn

TUBULAR STEEL POSTS (P4) (WITH SLIPBASE) (SINGLE OR DOUBLE POST)

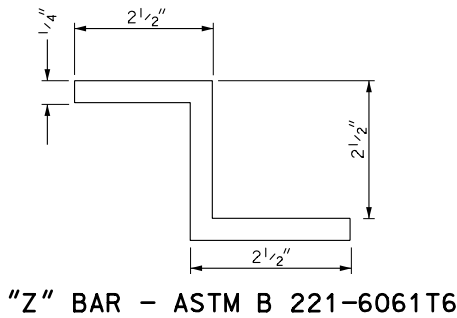


T BRACKET



U BRACKET

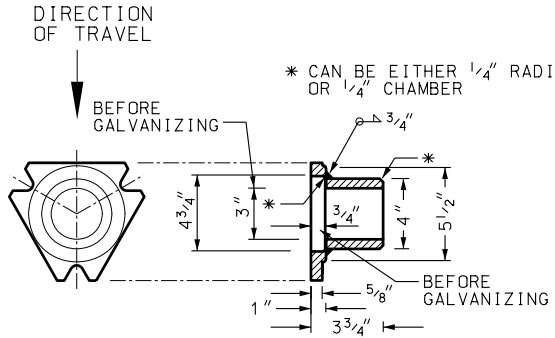
EXTEND T AND U BRACKETS TO 2" SHORT OF THE EDGE OF THE PANEL.



"Z" BAR - ASTM B 221-6061T6

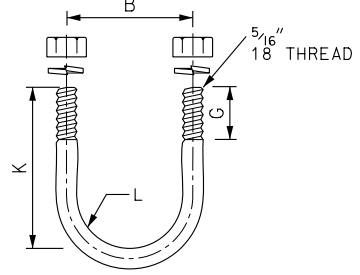
STANDARD PIPE SIZE	A	B	C	D	E	F	G	K	L	R1	R2
2	3 3/4	2 3/4	1 1/2	1 1/8	1/2	3/16	1	2 1/16	1 1/32	1 1/4	1 3/16
2 1/2	4 1/4	3 1/4	2	1 1/4	1/2	1/4	1	3 3/16	1 15/32	1 1/2	1 1/16

DIMENSIONS FOR MOUNTING CLAMP

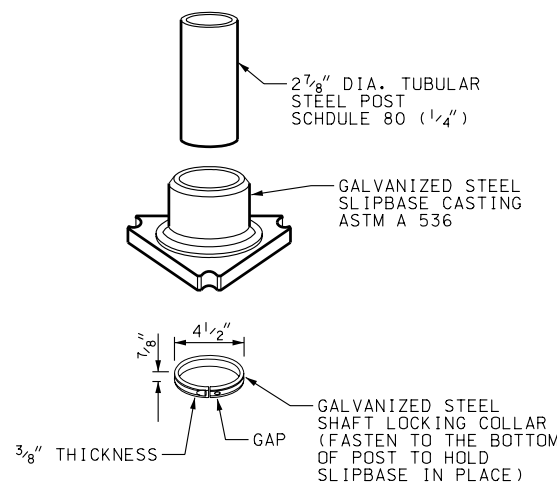


U-BOLT

U-BOLT TO BE MADE IN ACCORDANCE WITH STANDARD MANUFACTURING PROCEDURE. 9/32" OR 5/16" DIAMETER STOCK IS PERMISSIBLE. AMERICAN STANDARD REGULAR SEMI-FINISHED HEX NUTS AND LOCKWASHERS.

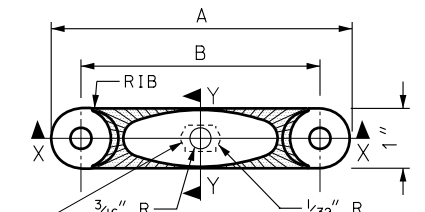


SLIPBASE CASTING

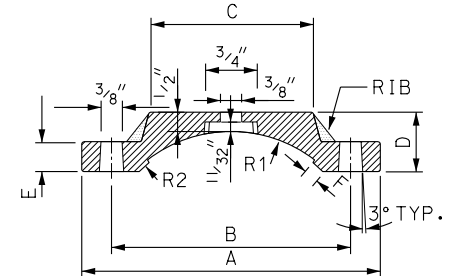


PIPE CLAMP CASTING

PIPE CLAMP CASTING: ASTM B26 OR B108 ALUMINUM ALLOY A444.00-T4 OR 356.0-F. SIGN MOUNTING CLAMP PARTS NOT MADE FROM ALUMINUM: GALVANIZED IN CONFORMANCE WITH ASTM A 153 OR STAINLESS STEEL.



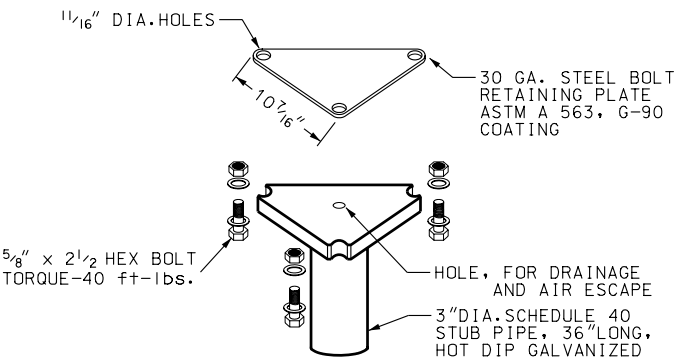
SLOT TO HOLD HEAD OF 5/8" HEX HEAD BOLT. BOLT: 1 1/4" LONG WITH FULL THREADS, A MINIMUM WASHER, AND GALVANIZED STEEL OR ALUMINUM SELF-LOCKING HEX HEAD NUT. THE BOLT HEAD MUST NOT TURN IN THE SLOT.



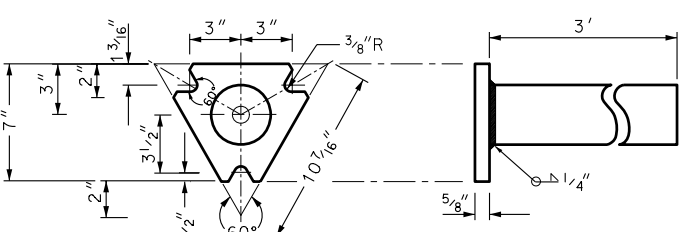
SECTION X-X

SECTION Y-Y

MOUNTING CLAMP FOR SOCKET OR SLIPBASE



TYPICAL ASSEMBLY



SLIPBASE STUB POST

UTAH DEPARTMENT OF TRANSPORTATION		STANDARD DRAWING TITLE	
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION		SLIPBASE GROUND MOUNTED TUBULAR STEEL SIGN POST (P4)	
RECOMMENDED FOR APPROVAL		APR. 28, 2005	
CHAIRMAN STANDARDS COMMITTEE		DATE	
DEPUTY DIRECTOR		APR. 28, 2005	
DATE		APR. 28, 2005	
NO.		DATE	
APPR.		DATE	
REMARKS		REMARKS	